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ABSTRACT

This document reports on a needs assessment conducted to determine demographic, occupational, and educational data in Pennsylvania, results of which were to be used to update the state's comprehensive vocational education plan. Answers to three major questions were sought for Pennsylvania and its 67 counties. The questions and their subtopics were as follows: (1) what are the human capital indicators (characteristics of the population, the labor force, employed and unemployed persons, and special needs populations)? (2) what are the occupational characteristics (current occupations, worker mobility patterns, emerging occupations, labor supply and demand)? and (3) what are the characteristics of publicly supported vocational education (enrollments, completers, programs, services, facilities, intergovernmental cooperation, and regionalization)? Information was gathered through a review of related national and Pennsylvania studies and through data collected by state agencies. This document contains the literature review and results of the research, reported for the commonwealth of Pennsylvania as a whole. Appendixes to the study include an annotated bibliography of 25 pages, definitions, and lists of postsecondary vocational education programs. (KC)

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FINAL REPORT

NEEDS ASSESSMENT FOR THE COMMONWEALTH OF PENNSYLVANIA COMPREHENSIVE PLAN FOR VOCATIONAL EDUCATION

Contract Number: 83-8001

MARK C. NAGY ASSOCIATES
ROSEMONT, PENNSYLVANIA 19010

October 1987

U.S. DEPARTMENT OF EDUCATION
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CHAPTER I

INTRODUCTION

Public supported vocational education is an essential component of Pennsylvania's educational and economic development systems. It provides participants with academic competencies required for effective living and occupational skills needed to sustain themselves and the economy.

During the coming months the Pennsylvania Department of Education's staff members are preparing the 1988 - 90 update of its comprehensive vocational education plan. The plan will: (1) provide direction for carrying out all aspects of publicly supported secondary, adult, and post-secondary vocational education and (2) act as a compliance document to obtain federal dollars allocated by the Perkins Vocational Education Act to help finance the state program. Included in the plan will be a synthesis of:

- The Commonwealth's population and training needs including special populations.
- The Commonwealth's current and projected occupational needs, particularly demand occupations.
- The needs of students in the Commonwealth including adults and special populations.
- The capability and responsiveness of existing vocational and training programs to meet occupational and student needs.
- Employer expectations of prospective employees.
- Assessment of the articulation of vocational training programs from school to work and/or secondary to post secondary.

Prior to formulating the comprehensive state plan, essential demographic, occupational, and educational data must be prepared in the form of a needs assessment.

STATEMENT OF THE PROBLEM

The purpose of this report is to assess the needs of the Commonwealth as they relate to publicly supported vocational education. Specifically, answers to three major questions will be sought for Pennsylvania, and its 67 counties. They are:

1) What are the human capital indicators ?

   a. Population characteristics
   b. Characteristics of the labor force
   c. Characteristics of employed persons
   d. Characteristics of unemployed persons
   e. Characteristics of special needs populations

2. What are the occupational characteristics ?

   a. Current occupations
   b. Worker mobility patterns
   c. Emerging occupations
   d. Labor supply and demand

3. What are the characteristics of publicly supported vocational education?

   a. Enrollments
   b. Completers
   c. Programs
   d. Services
   e. Facilities
   f. Intergovernmental cooperation
   g. Regionalization

DESIGN AND PROCEDURES

The steps involved in the evolution of this assessment and the reasons why they are essential are described below.

Review of Related Studies

Initial stages of this assessment focused upon a careful review of the literature relating to vocational education from the perspectives of business/industry and education at the national and state levels. This step was necessary to determine 1) what knowledge is available on the subject; 2) what techniques were employed to conduct studies of this type; 3) what problems are likely to be encountered in securing useable data; 4) what application do existing studies have for the current one; and 5) what pertinent questions relating to public supported vocational education in Pennsylvania have not been investigated? The results of this phase of the study are reported in Chapter II, Review of Related Studies, in the following categories which encompass the questions defined in the Statement of the Problem:

I. NATIONAL STUDIES

A. HUMAN CAPITAL: INDICATORS FROM THE POPULATION AT LARGE.

1. Business/Industry's View of the Work Force
2. Education's Assessment of Human Capital

B. OCCUPATIONAL NEEDS NATIONWIDE

1. Business/Industry's Idea of Future Occupations
2. Education's Perspective on Future Jobs

C. VOCATIONAL EDUCATION; A NATIONWIDE CURRICULUM

1. Business/Industry's Opinion of Job Training
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II. PENNSYLVANIA STUDIES

A. PENNSYLVANIA'S HUMAN CAPITAL

1. Business/Industry's View of Pennsylvania's Work Force
2. Education's View of the People

B. OCCUPATIONAL NEEDS IN PENNSYLVANIA

1. Business/Industry's Analysis of Pennsylvania's Economic Development
2. Education's Forecast of Job Opportunity in Pennsylvania

C. VOCATIONAL EDUCATION FOR PENNSYLVANIANS

1. Business/Industry's Suggestions for State Educational Reform
2. Education's Plan for Pennsylvania

III. SUMMARY OF THE REVIEW OF RELATED STUDIES

Because the wide array of related literature could not be treated concisely in Chapter II, a detailed annotated bibliography is included in Appendix A.

Population

Data portrayed in this study are obtained from existing information gathered from various state agencies. They are based, with relatively few exceptions, upon the entire population in the area of consideration rather than a sampling.

Collection and Analysis of the Data

The major sources of information are databases created by, or recognized by, the Commonwealth of Pennsylvania. They include, but are not limited to:

1. Pennsylvania Department of Education: Vocational Education Management Information System
2. Pennsylvania Department of Labor and Industry: Current Material Organizer for Service Delivery Areas (Job Training Partnership Act)
3. Pennsylvania Micro-Occupational Information System
4. Pennsylvania State University Data Center Population Projections
5. State Policy Data, Book/Diskette, 1987, (a compilation of statistics from federal documents.)

Efforts to collect the data were enhanced by effective intergovernmental cooperation. Specifically; a staff member of the Pennsylvania Department of Education's Bureau of Vocational and Adult Education arranged meetings with key governmental officials that resulted in the access to databases and other pertinent information. Furthermore, the Bureau of Vocational and Adult Education staff convened a Blue Ribbon Panel of professionals to focus on the assessment and share their priorities, concerns, and suggestions. Their verbal and written comments helped create a framework of reference for subsequent data collection and analysis.

Procedure for Analyzing The Data

The data were collected and re-entered into a customized database and/or spreadsheets to facilitate retrieval. Graphic representations of the data were developed and incorporated into the assessment. Representative graphics are included in Chapter III which deals with vocational education needs in Pennsylvania in the aggregate and in Chapter IV which treats the data by the 67 counties.

Chapter V is a summary of the findings, and Chapter VI indicates the implications of the findings and recommendations. Additional data as identified in the text are included in the Appendixes.

DEFINITIONS AND LIMITATIONS

Definitions

Appendix B., Definition of Terms, has been included to define the specialized terms that appear in the assessment.

Limitations

The main limitation is the inability to identify some of the data, especially labor supply and demand, by counties. This information is available in regional form of Service Delivery Areas or Labor Market Areas.

CHAPTER II

REVIEW OF RELATED STUDIES

The literature of both business/industry and education yields answers to questions of human capital, occupational need, and vocational education. Because of the media attention given to America's present industrial crises, some of the questions and answers reviewed in this chapter will come as no surprise. In fact, much of what is reported here might already be considered "common knowledge." This needs assessment includes a systematic review of recent studies from the viewpoints of business/industry and education.

Business/industry today is concerned that prospective workers are not equipped with either the appropriate scholastic preparation or the appropriate technical training for the jobs available. Educators are concerned that students and other new workers are not developing intellectual curiosity along with competence for a particular job. On the surface, these two groups seem to be saying the same thing from different points of view. A survey of their writings on such subjects as the nature of tomorrow's work force, current trends in the job market, and the relevance of vocational education to life in the real world, may actually reveal a meeting of minds. This present search for new answers in the business/industry and education literatures begins with National Studies (for contextual purposes) and concludes with Pennsylvania Studies. Each of the two sections contains a summary of fresh opinion, culled from both business/industry and education, on the subjects of human capital, occupational needs, and vocational education.

HUMAN CAPITAL: INDICATORS FROM THE POPULATION AT LARGE

Business/Industry's View of the Work Force

Business/industry's view of the national work force has long been based upon the concept of "human capital," defined as the accumulated knowledge, skill, and experience people can bring to productivity. Human capital is at once easy to talk about and hard to measure - except in terms of average level of education and aggregate years of experience (U.S. Department of Labor, 1980a). The demographic make-up of a general population can sometimes indicate broad patterns concerning the education and experience of the nation's work force. A population can be characterized in many ways, including not only its ethnic diversity, but its balance of genders, its numbers according to age groups (an indicator of experience), and its numbers both in and out of school (an indicator of education). These general population characteristics should help in assessing our nation's human capital, even if these characteristics are not found in the same ratios in the work force as they are in the population at large. Common sense suggests that human capital in the work force changes as the nature of the general population changes, though perhaps not in direct correlation, and certainly not proportionately either by gender, age group, or ethnic group. Today, for example, while there are more women than men in the general population, women comprise 40% of the work force, and only 17% of the total managers and executives (Work Life, 1981; Pennsylvania Department of Labor and Industry, 1987d). Also, there are more people in our population over 35 years of age than under 35 (U.S. Department of Commerce, 1985). Despite early retirement, however, the over-35 group makes up more than half of the present work force and is increasing rapidly. Even more startling is the ethnic disparity

between population statistics and employment statistics. Minorities comprise 12.2% of the general population, yet they represent less than 10% of the nation's employed (U.S. Department of Commerce, 1985).

Despite the pitfalls of generalizing from the population at large to the employed work force, the business/industry literature advances the following characterization of today's human capital: it lacks the knowledge and experience of women in decision-making positions; it lacks a steady infusion of younger workers; it lacks the skills of information technology at every level (e.g. U.S. Department of Labor, 1980b; Work Life, 1981; U.S. News and World Report, 1984; Swyt, 1987). We also get an impression of the nation's unemployed as illiterate and trained for yesterday's manual jobs, if trained at all. As one author states, "We must salvage the millions of lives of illiterate and semi-literate adults presently condemned to public dependency" (Hornbeck, 1986). There are still some, however, who question whether or not full employment is a goal worthy of wrenching out the changes necessary from both individuals and institutions (e.g. Ginzberg, 1976).

Education's Assessment of Human Capital

Educational critics today are concerned about the inability of students and others who seek job training to process and retain information from their textbooks and classroom lectures. They say that our programs no longer teach people the necessary skills for remembering information much beyond the next exam, let alone long enough to apply to the problems of everyday life. "Students," they claim further, "demonstrate very few skills for examining the nature of the ideas they take away from their reading" (National Commission on Excellence in Education, 1983). The concern is real, even among teachers themselves (U.S. Department of Education, 1984). Teachers know that if their students do not obtain a repertory of learning skills, they

run the risk of breakdowns either in comprehension or recall - the very measures of human capital and success in the workplace.

Educational observers view the nation's current work force as deficient in all of the basic academic skills (reading, writing, and elementary math), as well as deficient in basic learning skills (comprehension, correlation, and recall). As more and more jobs in our "information-based" society begin to involve communication and computation, an arsenal of basic skills, both academic skills and learning skills, will be required of all employees (Pelligrino, 1987).

OCCUPATIONAL NEEDS: MEGATRENDS IN THE NATION'S ECONOMY

Business/Industry's Idea of Future Occupations

Business/industry has always kept very close track of economic trends, perhaps even closer track now that technology affects more and more businesses and industries (e.g. U.S. Bureau of Economic Analysis, 1985). "Technology and genetic engineering," one labor observer states, "are turning the course of human history and transforming the way Americans live" (Cetron, 1986, 148). That course is from labor-intensive-manufacturing to information-intensive-service (e.g. Bell, 1976; Toffler, 1980; Naisbitt, 1984). The trouble is, as we turn this course of history, not every sector of our society is able to keep up to speed. There is a kind of lurch-and-lag syndrome of change developing among our various institutions. "The schools we attend, the businesses and agencies in which we're employed, and the communities in which we live, are all dramatically out of sync with each other" (Cohen, 1986, 151). In order to achieve a harmony of economic effort, these various institutions all must shift immediately to "an ethos of service" (Cohen, 1986, 151). Such a sudden shift could affect the labor market right away. While different kinds of jobs

would be created, only people who presently have service orientations and information processing skills will get those jobs (Swyt, 1986; Shapiro and Walsh, 1987). There will be a shortage of qualified people until the schools located in the area of demand can produce more "home-grown" workers. The job market, in reality, is a collection of small, specialized, local markets, with needs for certain skills from people who live within a reasonable distance. Mismatches in skill and geography contribute to labor shortages. Unless there are ample numbers of people who possess both an instinct for service and a technological background in every community, the shortage will continue. These two things are clear from the literature: the most readily available jobs will be service-oriented and computer-compatible; and businesses are likely to locate only in communities where the people are available to match those job attributes.

Education's Perspective on Future Jobs

On the direction of the economy, education and business/industry agree. As one scholar put it, our nation's economy is undergoing a monumental shift "out of an era of manual-based production into a new era ... [of] knowledge-based service" (Swyt, 1987, [9]). Yet educators, especially vocational educators, worry that, if "information technology" and "service to others" are to be the greatest areas of future job opportunity, the economy will surely catch fire for college-educated individuals who have trained for careers in the "helping professions," but may fizzle out completely for those who have stopped at a high school education or less, where the idea of "helping others" as a job may not have be emphasized. The conventional encouragement for underachievers today is still "help yourself," "be

independent," "pull yourself up." With this kind of advice always in the air, it may not occur to trainees that they could make a living helping people other than themselves.

VOCATIONAL EDUCATION: A NATIONWIDE CURRICULUM

Business/Industry's Opinion of Job Training

Observers who have watched the transition and assimilation of new workers into modern business and industry have arrived at some startling conclusions about vocational education. Steven A. Waldhorn, of SRI International, for one, claims that "the education and training programs that were designed to serve a mass-production style industrial economy appear in many ways ill-suited to meet the human capital requirements of a knowledge and information-based economy" (SRI International, 1985). Unless students and new workers are taught how to up-date their skills as their jobs evolve, unless they learn how to be flexible in a changing work environment, they risk becoming ineffective, losing upward mobility, and dropping out of the work force (National Academy of Sciences, 1984; Perelman, 1984; Choate and Linger, 1986). In addition to learning how to be flexible, students and other trainees should be exposed to a core curriculum that will foster both a general intellectual curiosity and an eventual competence in one or two areas (Gardner, 1986). On the technical side of the core curriculum, trainees should be encouraged to learn a cluster of technologies, rather than focus on a single vocational area (Cohen, 1986; Pennsylvania Department of Education, 1986c; Pennsylvania Department of Labor and Industry, 1987a).

Another group of critics believes not enough is being done to prepare people for the "nuts & bolts," or "hums & whirs," of work. In an effort to

help educators bring the substance of the workplace into their teaching, this group has initiated a program of professional development within industry for vocational educators. The basic premise is that students will profit from the rejuvenating experiences of their teachers (National Center for Research in Vocational Education, 1980b). There is a potential danger in the professional development approach: teachers could find themselves trying too hard to make education relevant to work, at the expense, perhaps, of bringing out character, values, and intellect in their trainees. These latter attributes are essential to healthy ego development, the ability to work independently, and a sense of self-confidence and conscientiousness - the key factors of job success (O'Toole, 1981).

Education's Self-Critique

Educators nationwide are self-critical of their own programs in vocational training. Their worry is that they are implementing the policies and programs developed in the last decade, and that these may be inadequate for the challenges ahead. They complain that business/industry, in the interest of proprietary secrecy, says nothing specific about future occupational needs, so how are educators supposed to adjust their programs in response to an unarticulated job market (Rist, 1981; Public Law 98-524, 1984; U.S. Department of Education, 1987).

The suggestion has been made among academics that we should develop in this country a new program of "technology education" the way Germany and Japan have done already, beginning in elementary school and leading eventually to degrees at the associate, bachelors, and doctoral levels (Swyt, 1987). This new kind of program would promote technology as a discipline separate and different from (but in concert with) both natural science and manual training. Students in the technology program would receive a general education with an

emphasis on technology. Armed with both academic and technical skills, new graduates would be able to approach any prospective employer with confidence in the possession of the intellectual equipment and technical know-how to perform up to expectation - no matter what the specific job being offered. To know the basic theories and principles of technology is to be able to adapt one's self to technological change in the workplace (National Center for Research in Vocational Education, 1979; 1980a).

Nearly all educators believe that the technical side of any new educational program must include an extensive computer literacy component (Work Life, 1981). They want to see programs that will prepare students and other new workers for productive lives in an emerging Age of Information. Far too many people, they feel (particularly people, for example, who never enter libraries, or who never use computers other than to play games), become disenchanted upon their first introduction to the serious uses of the new information technologies. Often the explanations they receive make little sense to them. This may be no fault of theirs, but rather the fault of a teaching system that does not accommodate variety in the ways people conceptualize the world of information. A current IBM ad reads, "The future belongs to the well-connected." IBM speaks to those who already understand the vocabulary of an information society - not to those who have never even touched a computer keyboard. There is no more important task for vocational educators today than to provide our nation's work force with the skills needed to "connect" with the new information technologies.

II. PENNSYLVANIA STUDIES

PENNSYLVANIA'S HUMAN CAPITAL

Business/Industry's Assessment of Pennsylvanian's Work Force

Pennsylvania's population is the third most aged in the nation (Pennsylvania Department of Education, 1983). Recent projections suggest that, by the year 2000, there will continue to be a higher proportion of Pennsylvanians in the middle-aged categories than in juvenile and young adult categories, and the number of people over 75 will have increased by 63% (Pennsylvania State University, 1986). Our population of young adults (ages 15-24) will actually have declined by 31%. This leaves Pennsylvania today with a mature work force, becoming smaller and "greener" as seasoned workers retire and their inexperienced replacements enter in fewer numbers (Pennsylvania Department of Labor and Industry, 1987b). How does this pattern affect human capital? Unless middle-aged Pennsylvanians develop information processing skills and a service mentality, there will not be enough qualified people to fill the kinds of "knowledge-based" jobs that are becoming available in our state (Pennsylvania State Occupational Information Coordinating Committee, 1981).

Education's View of the People

Pennsylvania educators take a similar view of the work force, but from a different angle. They see more and more older adults (retirees, for example, and homemakers whose children have grown up) enrolling in night school in order to "up-date" themselves for renewed competition. This is a healthy sign, but older adults, while they are often service-oriented, are often skeptical, even afraid, of the new information technologies. This kind of fear is difficult to overcome, so the question arises, "Can the night schools turn out enough people qualified both for service and for information management?" In addition to urging retirees and homemakers into training programs, educators see a special mandate resulting from government's concentrated effort to remove people from the welfare roles. With this group,

one would think it difficult to instill either a sense of service (these people are used to being served rather than serving), or a competence for information processing (many are either school drop-outs or illiterate to begin with). Surprisingly, however, this does not seem to be the case, since of the 115,000 persons who participate in JTPA basic skills and occupational skills programs ("from typing to computer repair"), nearly half are on public assistance (Pennsylvania State Job Training Coordinating Council, 1987).

OCCUPATIONAL NEEDS IN PENNSYLVANIA

Business/Industry's Analysis of Pennsylvania's Economic Development

Like the national trend, economic opportunity in most parts of Pennsylvania seems pretty good, even in some of those areas hit hardest by cutbacks in the manufacturing industries (Pennsylvania Department of Labor and Industry, 1986a; 1986b; 1987a; 1987c; Yancey, 1987). Already, eastern Pennsylvania is experiencing a labor shortage - a shortage created by a combination of expanding economy, low unemployment rates, and changing skill needs (Summers and Luce, 1985; 1987; Fidelcor, 1987). Service-oriented businesses in the eastern region are hard-pressed to find people to fill even the simplest of service jobs. The problem is that "even the simplest of service jobs requires basic educational skills in reading, writing, and/or mathematics" (Fidelcor, 1987, [7]). While job prospects in the services and precision-assembly industries will continue to be high (Pennsylvania Department of Labor and Industry, 1981; 1987a), many respondents to the advertised positions will not be hired, for lack of appropriate skills. For this reason, projections are that clerical workers, the largest occupational group in 1984 and the most promising in 1986 (along with nursing [Pennsylvania Department of Labor and Industry, 1986b]), will decrease 16.8% by 1995 (Pennsylvania Department of Labor and Industry, 1987c). If the unemployment

patterns established in 1985 prevail, young people (ages 16-19) will continue to lead the unemployed at 18%, and minorities of all ages will comprise 15% of the total (Pennsylvania Department of Labor and Industry, 1986b).

Education's Forecast of Job Opportunity in Pennsylvania

Academics who have studied the Pennsylvania job market in the past seem to have proceeded from two assumptions: (1) that the tradition of heavy industry would continue in this state even though it might wane in other parts of the country; and (2) that the development of factory robotics would take longer than it has. Pennsylvanians often point to Japanese ingenuity as the underminer of these assumptions, rather than point to our own complacency and sense of superiority. At the same time as Pennsylvania's heavy factories are closing their doors, office buildings and precision-assembly industries are opening theirs (Fuller and Gillis, 1986). Because of this spate of new office-oriented businesses, educators feel that clerical jobs, even those without information processing skills, will continue to provide the largest source of employment for at least another decade (Hershberg and Rubin, 1986). They acknowledge, however, that the clerical work force will eventually need processing skills, and that, presently, there are not enough adequately trained teachers of those skills (Pennsylvania Department of Education, 1987a; 1987b), nor is there great interest in information science among students (Pennsylvania Department of Education, 1986b).

VOCATIONAL EDUCATION FOR PENNSYLVANIANS

Business/Industry's Suggestions for State Educational Reform

From the perspective of business and industry, the way to ease the labor constraint in Pennsylvania is clear: (1) expand and improve the quality

of the labor pool, and (2) eliminate mismatches of skill and geography (Fidelcor, 1987). Improving the quality of the labor pool is the business not only of vocational education, but also of academic education. Even the simplest service jobs require communications skills, and sometimes computational skills as well. Employers expect that education will provide a work force that can read, write, add, and subtract (Pennsylvania Department of Education and The Pennsylvania State University, 1984). On the subject of preparing trainees for specific jobs, employers recommend cooperative programs between labor and education, rather than see the burden placed upon education alone (Pennsylvania Department of Education, 1984b).

Education's Plan for Pennsylvanians

When Pennsylvania's vocational educators discovered that two-thirds of their graduates were unable to find the kinds of jobs for which they had been trained, it became clear to them that something was drastically wrong either with their ability to anticipate trends in the job market (Pennsylvania Department of Education, 1984a; 1986a), or with their ability to attract students into the right courses (Pennsylvania Department of Education, 1986b; Pennsylvania Department of Labor and Industry, 1986b). To help rectify this situation, the Commonwealth's Governor has pledged "to put our money where our kids are" (Casey, 1987a, [8]). The money budgeted will be earmarked for basic skills improvement, adult literacy programs, drop-out prevention, and counseling for vocational education students.

Until 1985 there had been no comprehensive plan nor any one outstanding feature of Pennsylvania's vocational education program that might give students and new trainees an edge in the job market (Pennsylvania Council on Vocational Education, 1982; 1987a; 1987b; Pennsylvania Department of

Education, 1983; 1985b). In fact, the popular belief still persists that vocational programs are simply repositories for academically-troubled students and adult illiterates (Pennsylvania Council on Vocational Education, 1987a; Pennsylvania Department of Education, 1985b). With incentive to improve, both in image and in substance, the vocational education community has joined in a resolve "to be responsive to the diversity of its students, their varied backgrounds, abilities, learning styles, and aspirations, and [to] use a variety of educational approaches and cooperative arrangements to accommodate those differences" -a self-generated mandate from which the Governor's Office now takes its lead (Pennsylvania State Board for Vocational Education, 1986, 3).

What makes this new resolve promising is its concern for the total development of the individual: academic development, skills development, social development, and psychological development. Out of this concern for the whole person comes a variety of recommendations, from improving reading and math, to learning computers, to mixing with others on-the-job, to becoming self-motivated (Pennsylvania State Board for Vocational Education, 1986). At the same time, the State Board of Education has developed a master plan for higher education, which, for the first time in a long time, takes into consideration "demographic trends, economic factors, and labor market needs" (Pennsylvania State Board of Education, 1986). The climate, now, is right for a reassessment and refinement of thinking. New answers are sure to emerge.

III. SUMMARY OF THE REVIEW OF RELATED STUDIES

Our nation's population is undergoing a transition in age group dominance from teen-ager to senior adult. In the future, there will be fewer

and fewer young people available to work, and more and more older adults beyond retirement (U.S. Department of Commerce, 1984). What are the consequences of this particular population pattern on tomorrow's work force? The prediction is we shall need to start relying on middle-aged workers and older adults to refill the working ranks. The problem we shall face is not in finding enough interested people, but finding enough appropriately trained people for the service-oriented and technologically-based jobs of the future. Generally speaking, older people have not yet been educated in the new technologies of an emerging knowledge-based-service economy. Even young people now are not receiving technological and service training as required components of their education. Will tomorrow's human capital continue to be as less and less service conscious and technologically astute? This is the question business/industry asks. It is a question for education to answer. But educators cannot answer without first turning to government with a question of their own: "Will government invest in service and technological education?"

The great challenge before business/industry,labor, education, and government, in Pennsylvania and across the nation, is to plan a way of readjusting three factors at the same time: (1) human capital that includes the element of experience; (2) occupational needs that include more opportunities for the disenfranchised; and (3) vocational education that includes more service motivation and more information technology. "There is a widening gap between what the economy requires and what the new labor force will provide" (Espenshade, 1987). This observation strikes an immediacy in the task we face of warding off potential shortages of appropriately trained workers. Unless we develop educational contexts that provide both an ethos of service and a familiarity with information technology, we shall continue to experience shortages in the workplace, or have to settle for mediocre

performance. Unless we find ingenious ways to attract both unemployed people and older people into our educational programs, we run the danger of entering the next century "as a nation of haves and have-nots, glaring at each other across a deep divide defined by education and skills" (Shapiro and Walsh, 1987, 43). Making our educational programs appealing will require an unusual commitment of brain-power and purchase-power on the parts of local employers, educators, and public administrators. It will require an all-out investment in our society's uneducated and unconnected.

CHAPTER III

VOCATIONAL EDUCATION NEEDS IN PENNSYLVANIA

Upon the completion of the review of related studies found in Chapter II, the next step in the assessment was to seek answers to the questions set forth in the statement of the problem. This chapter addresses the three major questions which are:

1) What are the human capital indicators?

   a. Population characteristics
   b. Characteristics of the labor force
   c. Characteristics of employed persons
   d. Characteristics of unemployed persons
   e. Characteristics of special needs population

2) What are the occupational characteristics?

   a. Current occupations
   b. Worker mobility patterns
   c. Emerging occupations
   d. Labor supply and demand

3) What are the characteristics of publicly supported vocational education?

   a. Enrollments
   b. Completers
   c. Programs
   d. Services
   e. Facilities
   f. Intergovernmental cooperation
   g. Regionalization

HUMAN CAPITAL INDICATORS IN PENNSYLVANIA

The Commonwealth of Pennsylvania needs educated citizens to continue its historical tradition as a desirable place to live and work. It also needs a labor force capable of maintaining and attracting business and industries for its economic viability and vitality.

In this report, human capital refers to the combination of abilities, attitudes, knowledge, skills, experiences, and quality of living standards that characterize the people of Pennsylvania. Human capital, therefore, refers to Pennsylvania in a dual context of investment (1) as people needed to perpetuate its democracy and freedom, and (2) as people essential to its economic survival and strength.

Population Characteristics

The Pennsylvania Population Projection and Estimate System used to develop Figure 3.1 and its accompanying data are based upon several major assumptions. They are:

(1) Fertility rates - a slight increase from 1980 to 1990, then stabilizing until 2000.

(2) Survival rates - Improvement for all sex-race groups.

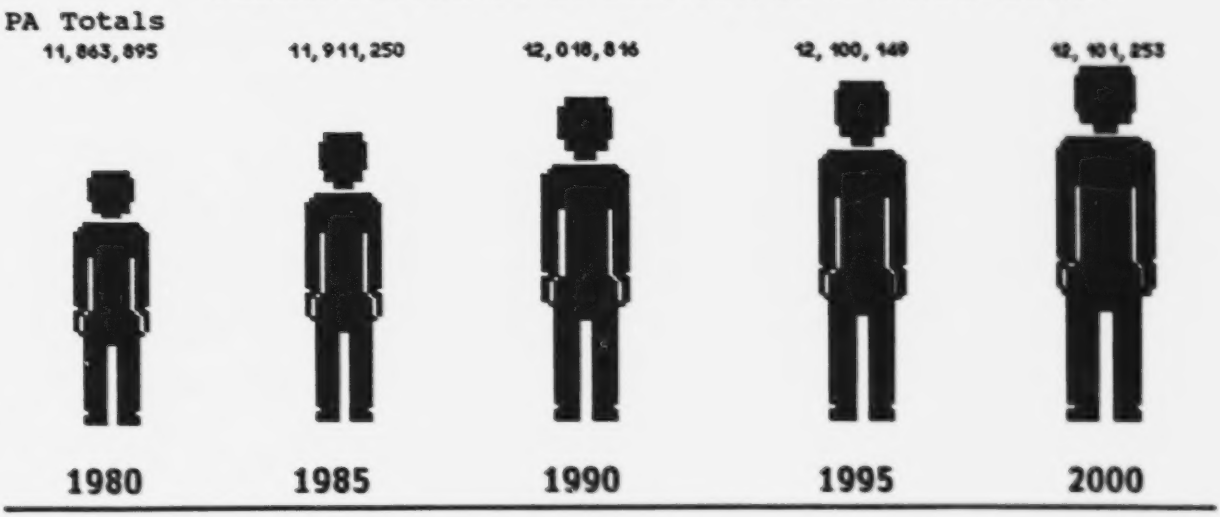
(3) Migration - Rate will decline from 1980-2000.

  (a) High in-migration to Poconos (Northeast Pennsylvania)
  (b) Reduction in rate of in-migration to suburban Philadelphia
  (c) Rapid reduction in net out-migration rates in Allegheny and Philadelphia Counties. (Pennsylvania State University, 1986)

Pennsylvania's total population is 4.93% of the nation's, making it the fourth most populated state. Its growth from 1980-1986 averaged only 2% compared with the national average of 6.4%. That was a rank order of 46 in a 50 state listing. Census projections to 2000 indicate that a 6% population decrease will make it the fifth most populous in the nation and 49th in growth. A key ingredient in that decline was a net migration from 1980-85 representing 1.8% of its 1980 population. The net migration ranking was 42nd in the nation. (State Policy Data Book, 1987)

Pennsylvania population in many respects follows the national trends. Specifically, those born between 1955 and 1965, significant years in the baby boom, coupled with increased life expectancy, are contributing to an aging Pennsylvania and America.

PENNSYLVANIA POPULATION AND PROJECTION



Penna Age	1980	1985	% Change	1990	% Change	1995	% Change	2000	% Change
0-4	747458	794231	6.26%	843234	6.17%	814438	-3.41%	731498	-10.18%
5-9	805151	748551	-7.03%	796639	6.42%	846512	6.26%	818438	-3.32%
10-14	931891	802921	-13.84%	747895	-6.85%	796627	6.52%	847017	6.33%
15-19	1080610	918707	-14.98%	792043	-13.79%	738190	-6.80%	787477	6.68%
20-24	1059815	1017839	-3.96%	861056	-15.40%	738210	-14.27%	687526	-6.87%
25-29	945051	1029043	8.89%	989756	-3.82%	835433	-15.59%	714316	-14.50%
30-34	847847	951370	9.85%	1016917	9.19%	979043	-3.72%	826365	-15.59%
35-39	682283	839183	23.00%	923973	10.10%	1010319	9.35%	973585	-3.64%
40-44	591789	675592	14.16%	832536	23.23%	917830	10.25%	1004621	9.46%
45-49	600257	579494	-3.46%	663555	14.51%	819408	23.49%	904779	10.42%
50-54	695755	579056	-16.77%	561699	-3.17%	644084	14.67%	797582	23.83%
55-59	712074	659966	-7.32%	550581	-16.57%	534608	-2.90%	616353	15.29%
60-64	632981	654361	3.41%	609661	-6.86%	509796	-16.38%	497116	-2.49%
65-69	537045	561227	4.50%	585366	4.30%	548477	-6.30%	460619	-16.02%
70-74	407020	452810	11.25%	478594	5.69%	504018	5.31%	476084	-5.54%
75-79	282000	320312	13.59%	361487	12.85%	387318	7.15%	413097	6.66%
80-84	174908	197983	13.19%	230089	16.22%	265052	15.20%	289788	9.33%
85+	129960	148404	14.19%	174733	17.74%	210786	20.63%	255192	21.07%
TOTAL	11863895	11911250	0.40%	12018816	0.90%	12100149	0.68%	12101253	0.01%

Source: Pennsylvania State Data Center, Pennsylvania Population Projection, 1980 - 2000, PSDC 80-40-14, (Middletown, PA), 1980.

Figure 3.1

These effects show up in the following Pennsylvania projections. They are:

Total Population - Increase by 2% from 1980-95, then stabilize until 2000

Non White Population - Growth at 4% higher than white

Children Under Age 5 - Increase 13% from 1980-90, then decrease by same percentage to 2000. (Baby boom mothers followed by baby bust mothers)

Elementary School Children Ages 5-14- Decline between 1980 and 1985 by 11% then increase by 7% between 1985 - 2000

High School and College Population- A dramatic decline by over 31% between 1980 and 1995, then stabilize until 2000. Of this decline 85% is due to the lower birth rates in 1970's

Labor Force Age Population, Age 20-64- Increase from 6.77 million in 1980 to 7.02 million in 2000

Ages 65-74- Increase by 12% during the 80's then decrease by 12% during 1990's. This reflects the movement of the 1932 depression era babies into retirement age

Age Group 75 and Over- A resounding 63% increase between 1980 and 2000.

County Patterns- Of the 67 counties, 43 will continue to increase, ten will decrease, and 14 will shift from being on the increase to a decrease.

Non-metropolitan and Metropolitan- Non-metropolitan counties will continue to grow 5% greater than their urban counterparts. (Pennsylvania Population Projections)

Based on the projections, Pennsylvania, like the nation is experiencing shifts that are "reshaping the social, economic, and political landscape." (U.S. News and World Report, 1987, p.41)

Characteristics of the Labor Force

> "The prime resource of the U.S. economy is neither its great stock of money, plant, equipment, and technology nor its abundant natural resources and rich cropland. Rather, it is the knowledge, skills, wisdom, enthusiasm, and versatility of the American people." (Choate and Linger, 1986, p.191)

A review of the ages of the human capital, the prime resource noted above, indicates that today's worker will constitute about 85% of America's workforce and employers will be counting on them to fill their jobs. Until

2000 the majority of workers will be in their productive years. So far American workers with high educational levels and enthusiasm about new technology as well as with new approaches have maintained their status as among the most productive in the world.

Major concerns exist, however, because of some glaring weaknesses in the human capital infrastructure such as:

Illiteracy- One in every five adults is functionally illiterate to the degree of being unable to read a job notice, fill out an employment application, or make change.

Discrimination In The Workplace- Women, minorities, the aged, and handicapped, estimated to be the majority of the work force are affected.

Non Worker- Many youth, especially non-white have never held a job.

In reviewing these factors, analysts cite a lack of:

- Retraining by businesses or modernization of educational and training systems by federal and state governments.
- Workers' motivation to improve their skills and adapt to change. (Choate and Linger, 1986)

Those weaknesses are representative of many of the common concerns labor and education share as documented in the literature of Chapter II and the Annotated Bibliography. Figure 3.2 which follows, portrays 1986 annual

average data for the Pennsylvania Labor Force. Representations in Figure 3.2 are predicated upon the following 1986 annual average data for the total labor force of 5,634,000.

	Labor Force	Employed	Unemployed	Unemployment Rate
Male	3,155,000	2,925,000	230,000	7.3
Female	2,479,000	2,324,000	156,000	6.3
White	5,217,000	4,884,000	333,000	6.4
Non-White	417,000	365,000	53,000	12.6
16-19 yr.olds	369,000	305,000	63,000	17.2
20-21 yr.olds	275,000	242,000	32,000	11.8
Pennsylvania	5,634,000	5,248,000	386,000	6.8
United States	117,835,000	109,598,000	8,237,000	7.0

Source: Commonwealth of Pennsylvania, Department of Labor and Industry Current Material Organizer for Labor Market Composition (Harrisburg, Pa.) Tables III. pgs.3,4, Annual Averages for 1986.

As shown in the data listed above, Pennsylvania labor force in 1986 was 5,634,000 with 386,000, or 6.8% out of work seeking employment. Minority groups, however, experienced a 12.6% unemployment rate, second only to 17.2% unemployment rate of 16-19 year olds.

It is important to note that Figure 3.2 and accompanying tabular data do not reflect persons excluded from the labor force. Not included are those who do not want a job for reasons of keeping house, attending school, being ill, disabled, retired, etc. Furthermore, youth 16 years or over who want a job but are not looking because of discouragement or other reasons are not considered part of the labor force.

Characteristics of Employed Persons

Pennsylvania's pattern of employment tends to follow the three eras of the U.S. Workforce. In its first century as a nation, the United States transformed from an agrarian nation into an industrial one. A major decrease in the number of farmers coupled with tremendous growth in productivity resulted when technological advances were made. According to Swyt 'data

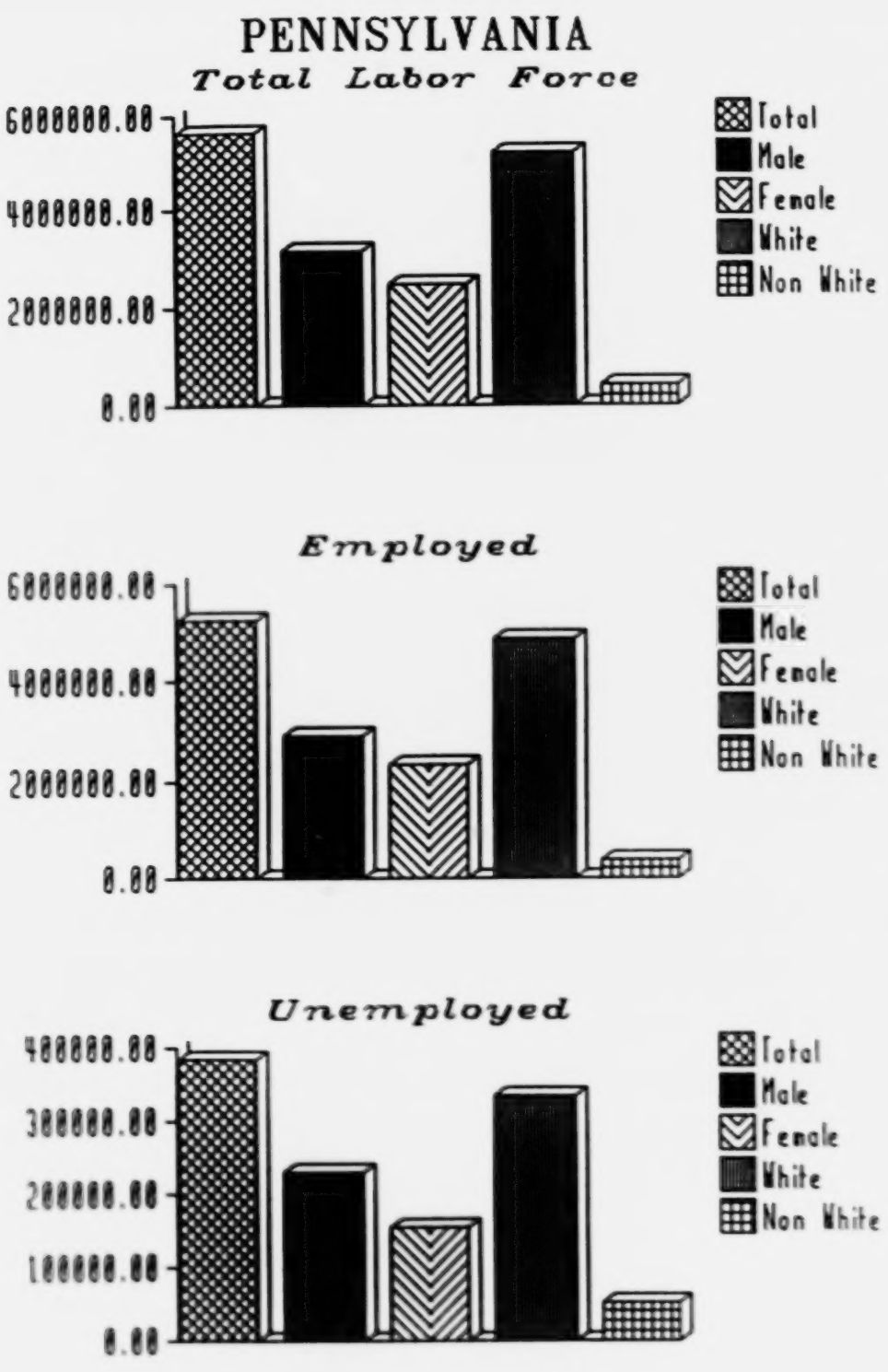


Figure 3.2

Source: Commonwealth of Pennsylvania, Department of Labor and Industry, Current Material Organizer for Labor Market Information, (Harrisburg, PA), Tables III-B-3,4, Annual Averages for 1986.

suggest the probability that manufacturing in particular and goods production in general are entering an era in which, as for agriculture two centuries before, first the relative number, then the absolute number of workers engaged steadily decline." (Swyt,1986, p.5). Technological advancement which replaced many blue collar functions will lead to service related industries that are dependent upon information technologies. Futurists indicate that employed persons will shift careers from 5 to 7 times during their lifetime. This will require mature work attitudes and constant retraining for flexibility in their jobs.

The trend away from manufacturing to non manufacturing among Pennsylvania's employed is shown in the following comparison. In 1975, manufacturing represented 1,334,800, or 30.1% of the 4,435,800 nonagricultural employes by major industry group. By 1985, it represented 1,089,100, or 23.0% of the 4,735,900. Projections indicate that by 1990 the proportion of manufacturing to total non-agricultural wage and salary will drop to 20.8% and even further to 18.7% by 1995. (Pa. Dept. of Labor and Industry, 1987 b, p.10)

As shown in Figure 3.2, the employment characteristics are weighted heavily toward white males and females 22 years and over.

A consideration of employee characteristics must include income and wage factors. Three methods of portraying these data are personal income, per capita income, and average annual wages. Personal income is that received from all sources by residents of Pennsylvania. These sources include wages, salaries, unemployment insurance benefits, property income, dividends, royalties, and other business income. Per capita personal income is derived by dividing total personal income for a year by the state's total resident population. It pertains to each individual regardless of age or inclusion in the labor force. Average annual wages are based on the total payroll for unemployed compensation insured workers divided by the number of employees.

Personal income statistics are usually shown in gross dollars and % rather than for individuals in statistical treatments. For example, total personal income in Pennsylvania rose 7.79% from 135,708.7 millions in 1983 to 146,283.3 millions in 1984. Per capita income is shown in dollars and yields to comparisons and rankings of the state and nation. For example, Pennsylvania's per capita income of $13,437 in 1985 was 22nd in the ranking of the 50 states. Average annual wages are also shown in dollar amounts and are determined at the place of work rather than at the residence. In 1985, Pennsylvania employees had an annual average wage of $18,611, a ranking of 16th in the nation. (Pa. Department of Labor and Industry, 1986; State Policy Data Book, 1987)

Figure 3.3 portrays the gross annual wages and salaries of $69,707,346,000 for all persons employed in Pennsylvania establishments in 1984. Data included in Figure 3.4 show total number of Pennsylvania establishments in 1984 and the number of persons employed in them. Comparable data for each county are included in the County Profiles in Chapter IV of this assessment. In addition to graphic representations contained therein, a relative ranking among the counties is identified in the narrative for the total number of establishments, employment, and annual wages and salaries. (Pennsylvania State University, 1987)

In addition to those statistics, total personal income and per capita personal income in 1984 are shown for each county along with annual average wages.

Characteristics of Unemployed Persons

In Figure 3.2 a profile of the unemployed was shown as a portion of the labor force. Comparable data for each county are indicated in Chapter IV.

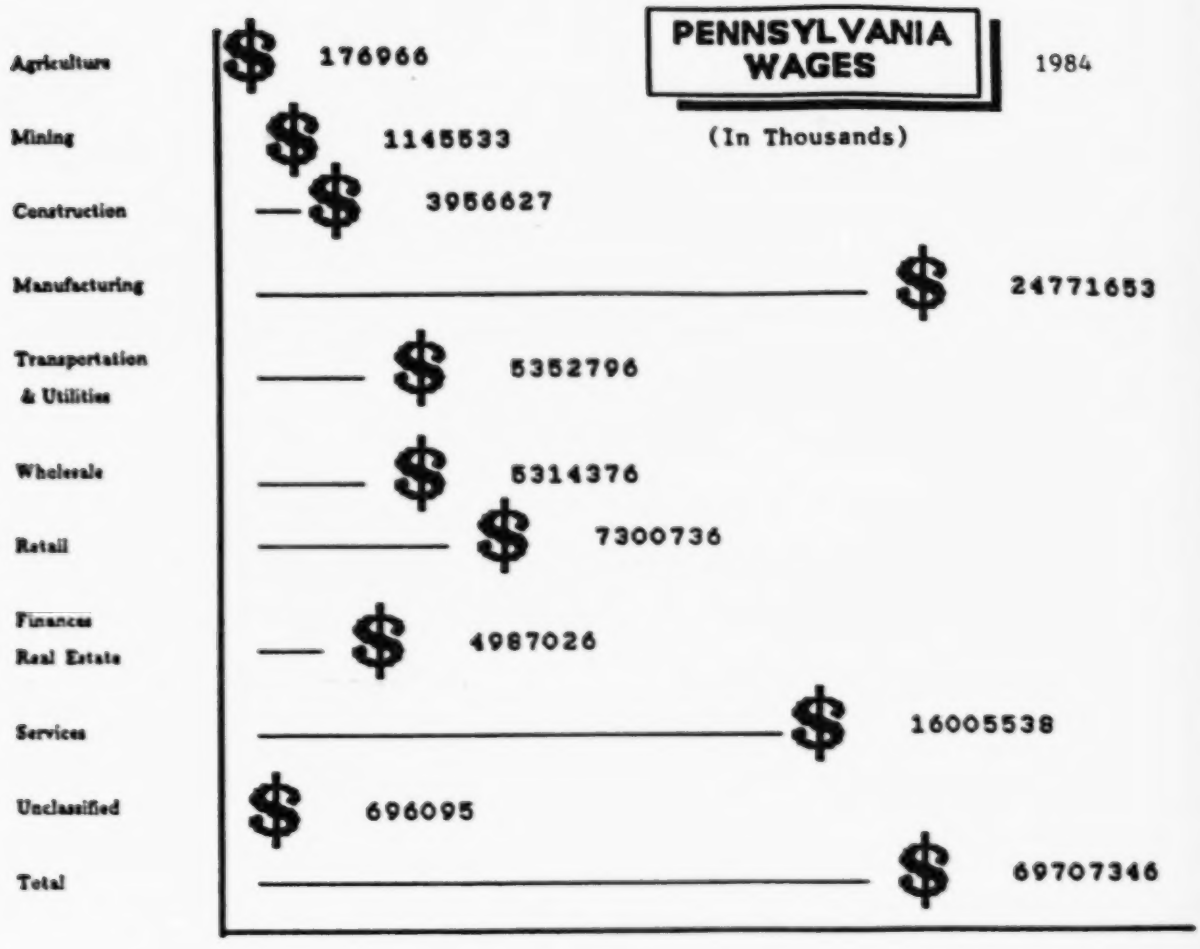


Figure 3.3

Source: Commonwealth of Pennsylvania and the Pennsylvania State Data Center, Pennsylvania County Data Book, 1987. (Harrisburg, PA), 1987.

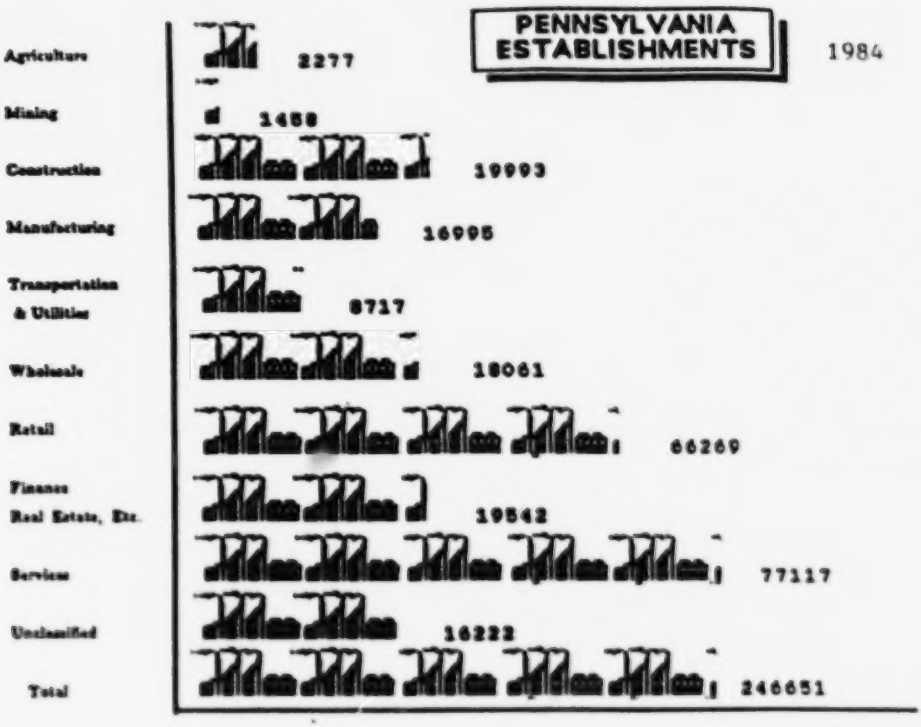


Figure 3.4

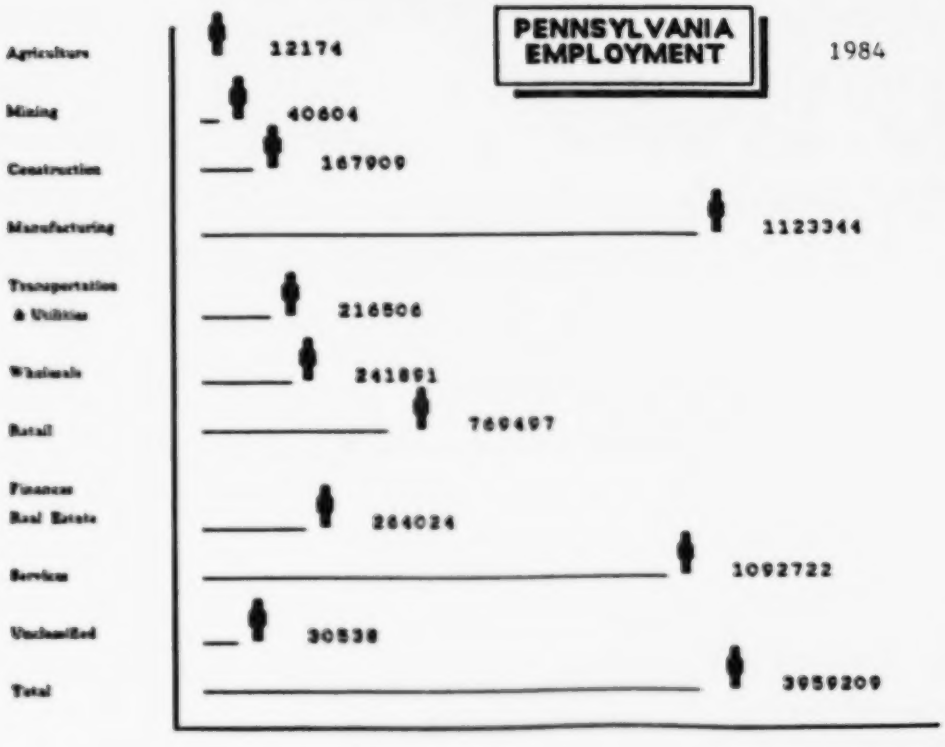


Figure 3.5

Source: Commonwealth of Pennsylvania and the Pennsylvania State Data Center, Pennsylvania County Data Book, 1987, (Harrisburg, PA), 1987.

Further data delineating the characteristics of the insured unemployed by 1986 Annual Averages are shown in Figure 3.6 and accompanying data by age, sex, and occupational area.

Characteristics of Special Needs Population

Pennsylvania recognizes the urgency of providing vocational education and skills to those with special needs. Not only is the commitment to help them an essential part of the common good, but it is an economic plan designed to reduce dependency upon government.

Title II-A of Public Law 98-524, the Carl D. Perkins Act, mandates equal access to vocational education. Categories specifically included are:

(1) handicapped individuals
(2) disadvantaged individuals
(3) adults who are in need of training and retraining
(4) individuals who are single parents or homemakers
(5) individuals who participate in programs designed to eliminate sex biases and stereotyping in vocational education, and
(6) criminal offenders who are serving in a correctional institution

A requirement of the act is that matching state and local funds be used for each category noted above with the exception of single parents and homemakers, students in non-traditional programs and criminal offenders in correctional institutions. In fiscal year 1985-86, there were 219 secondary programs serving 21,052 of the special needs population at a cost of $5,478,552. Post-secondary programs accounted for 51 projects serving 26,261 others at a cost of $1,001,289. Success of these programs is chronicled in the 1985-86 Annual Report. (Pennsylvania Department of Education, 1987 b) One limitation in the service of the disadvantaged category was the absence of local/state matching funds.

Characteristics of the Insured Unemployed
1986 Annual Average
Percent Distribution

PA

By Sex		By Age		By Occupation	
Male	62.47	<24	14.13	Agriculture	1.46
Female	37.53	25-44	54.62	Manufacturing	45.59
		45-64	30.35	Non-Manufacturing	52.95

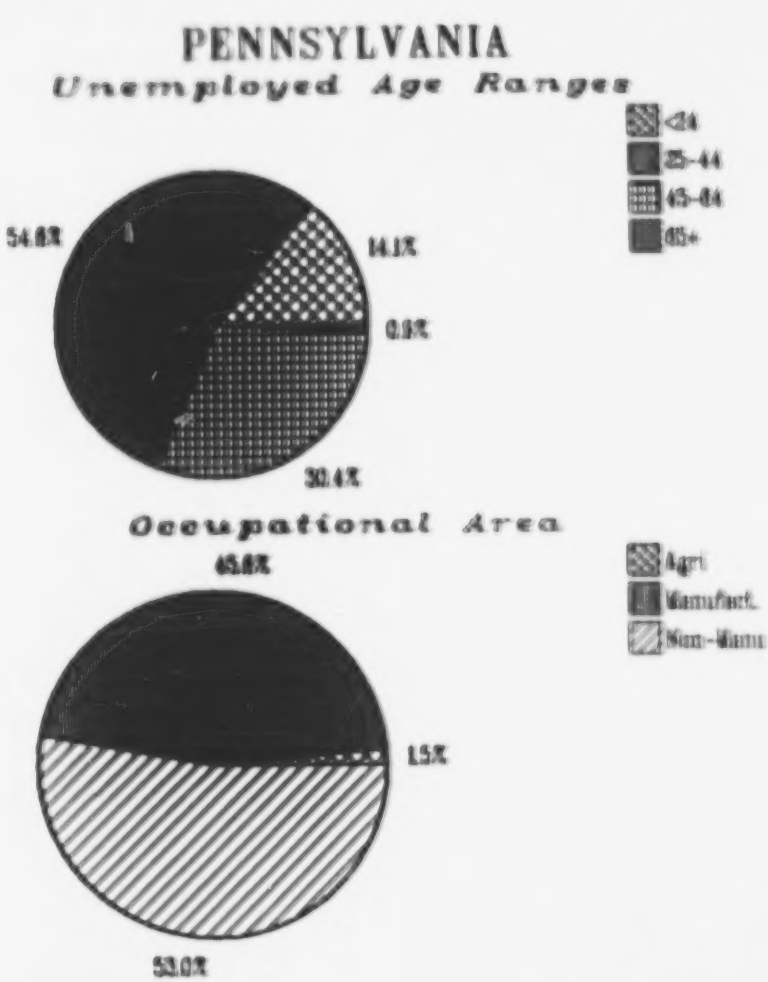


Figure 3.6

Source: Commonwealth of Pennsylvania, Department of Labor and Industry, Current Material Organizer for Labor Market Information, (Harrisburg, PA), Tables III-E-1, Annual Averages for 1986.

The Pennsylvania Council on Vocational Education made a recommendation advocating state assistance for matching funds to the State Board of Education in 1986 and again in 1987 as follows:

> "PACVE recommends that the general assembly and the government provide in the state budget an amount of money sufficient to meet one-half of the matching costs for federal vocational funds for disadvantaged students. As approximately $14 million of federal funds will be available in 1987-88, PACVE recommends that the Governor request and the General Assembly appropriate $7 million to meet one-half of the match requirement."(Pennsylvania Council on Vocational Education, 1987c, p. 10)

Recognition had been given in the Governor's budget proposal for $500,000 in matching funds, but it did not succeed in being part of the budget as adopted.

Title II-B of the Carl D. Perkins Act allocated $3,787, 917 to area vocational schools and comprehensive high schools for the needs and priorities identified in the Comprehensive State Plan. As a result, more than 69,000 students benefited from additional equipment, 10 new programs, 12 expanded programs and 2 career guidance programs in Philadelphia.

The special needs population of which Pennsylvania had 23,145 in 1986, received assistance in 12 re-entry and 14 preventative programs. (Pennsylvania Department of Education, 1987 b).

In addition, many initiatives in personnel development focused on assisting professionals in working with the special needs population.

Vocational education administered through the Pennsylvania Department of Education is a major, but not the only, source of funds earmarked to help the special needs population. Funds for the Job Training Partnership Act, administered by the Department of Labor and Industry and 28 Service Delivery Areas have significant responsibilities to target groups.

A listing of the special services group and their population in 1986 follows:

Targeted Service Groups, 1986

Pennsylvania

Economically Disadvantaged		2,204,900
Dislocated Workers		116,500
Long Term Unemployed		120,000
Unemployment Exhaustees		98,000
Persons receiving Cash Assistance Per Month		749,888
Persons Receiving AFDC Per Month		580,219
Handicapped		642,761
Dropout		83,143
Displaced Homemaker		313,000
Teen Mother		18,124
Single Parent	Male	54,040
Single Parent	Female	216,917
Ex-Offender		31,317
Vietnam Veteran Labor Force		153,000
Vietnam Veteran Unemployed		18,000

Source: Commonwealth of Pennsylvania, Department of Labor and Industry, Current Material Organizer for Labor Market Information (Harrisburg, Pa.) Part V, 1986.

Appendix C: JTPA Targeted Service Groups, provides extensive data relating to the special needs populations shown above. The contents are from the regularly updated materials provided to the JTPA Service Delivery Areas for planning purposes. Definitions are shown as part of Appendix C which contains 18 tables. Since the data are shown by counties as well as by state aggregate, the information will be helpful also when considering Chapter IV.

OCCUPATIONAL CHARACTERISTICS

Introduction

The health of Pennsylvania's economy is reflected in the occupational characteristics. Encouraging national economic news came just as this assessment neared completion. Yancey (1987,p1A) reported that "Because of a sharp rebound in factory employment, the nation's unemployment rate last month fell below 6% for the first time in eight years." It is noteworthy that the major reason given for the improvement was a result of international monetary judgments.

Planners in Pennsylvania's Department of Labor and Industry observe what many of the writers in the annotated bibliography state -

> "Pennsylvania's economy, like the nations, is undergoing a structural transition-a major shift from a heavy emphasis on the goods producing sector (mining, construction, and manufacturing) to more emphasis on the service producing sector. This transition has been taking shape since the 1950's, but only in the last decade has it gained momentum, particularly since the 1982-83 recession." (Pennsylvania Department of Labor and Industry, 1986 a, p.8)

The report acknowledges, however, that Pennsylvania is making an economic comeback by creating a better balance of goods-producing and service industries. A heartening comment as transitions are made indicates that service-producing industries have experienced larger increases then goods-producers.

Current Occupations

Non-agricultural wage and salary employment covers about 92% of Pennsylvania's employment with the remainder including agriculture workers, the self employed, and family workers. The following listing shows the relationship of Pennsylvania's total non-agricultural wage and salary

employment in comparison with the United States. A ratio of 1.0 or more indicates a greater concentration of an industry in Pennsylvania than in the nation.

	Pennsylvania	United States	Comparison
Manufacturing Total	23.0	18.9	1.76
Durable Goods	13.3	11.8	1.13
Primary Metal	2.2	0.8	2.75
Machines,exc. Elect	2.4	2.2	1.09
Other durable goods	8.7	8.8	0.99
Non-Durable Goods	9.7	8.0	1.21
Apparel and Rel.Prod	2.1	1.2	1.75
Food and Kindred Prod.	1.9	1.7	1.12
Other Non durable	5.7	5.1	1.12
Non Manufacturing Total	77.0	81.1	0.94
Mining	0.8	1.0	0.80
Contract Construction	4.0	4.8	0.83
Transport. & Pub. Utilities	5.1	5.4	0.94
Wholesale Trade	5.4	5.8	0.92
Retail Trade	17.2	17.8	0.97
Finance,Ins.,Real Est.	5.5	6.1	0.90
Services and Misc	24.7	22.4	1.10
Government	14.3	16.7	0.86
Federal	2.9	2.9	1.00
State & Local	11.4	13.7	0.83

Source: Occupational Trends and Outlook (Pennsylvania Department of Labor and Industry, 1987 c, p.10)

Within these areas of industry employment are the following types of employment.

	Pennsylvania	United States	Comparisons
Professional, Paraprof, and Technical	16.0	15.0	1.07
Management and Mgt. Rel. Act.	9.0	10.6	0.85
Marketing and Sales	10.6	10.5	1.01
Adm. Support Occs. inc.Clerical	17.2	17.5	0.98
Prec.Prod.Craft Repair Occs.	12.4	11.5	1.07
Operators and Fabricators	13.7	12.3	1.11
Service Occupations	15.5	15.5	0.99
Helpers, Laborers and Mat Mov	4.2	3.9	1.08
Ag.,Forestry, Fish & Rel. Occ	1.8	3.3	0.55

Source: "Occupational Trends and Outlook" (Pennsylvania Department of Labor and Industry, 1987c, p.11)

Information shown above indicates that the concentration of

occupations, except for agriculture, forestry, fishing, and related occupations, is similar in Pennsylvania and the United States. Managerial and management related occupations tend to be fewer in Pennsylvania, but operators and fabricators are more numerous.

Worker Mobility Patterns

Worker mobility from area to area in Pennsylvania has not been pronounced although this is treated on a county by county basis in Chapter IV. Imbalances exist across the state with a preponderance of laid off trained welders in western Pennsylvania being reluctant to relocate to existing opportunities in the Philadelphia area.

Worker mobility, from job to job, is likely to increase as the shape of business is transformed to meet societal demands. For example, an abundance of clerical workers laid off because of automation may enter the health occupations field in a related or non-related capacity. The move toward an information based service society will make higher skill and knowledge demands on workers that can best be met at the post-secondary, even college levels. Mobility in the work force can be enhanced by mature attitudes toward work, a sound basic education program and post secondary as well as adult opportunities to continue learning. The recent recommendations of the Pennsylvania Council on Vocational Education relate to the following criteria:

(1) Career Education, K - 12
(2) Academic Foundations
(3) Development of a Post Secondary/Adult Vocational Education System (Pennsylvania Council on Vocational Education, 1987b,c)

With the proper attitudes, skills to build upon and an opportunity for further training, worker options and mobility would be greatly enhanced.

Emerging Occupations

Some of the state economic development initiatives provide clues to the types of occupations that may emerge. With the thrust toward advanced technology by linking higher education, government, business and industry in a long term effort to create jobs for Pennsylvania, new occupations may emerge. A high speed train connecting Pittsburgh and Philadelphia would bring the highest levels of transportation technology to the Commonwealth. Searches for new energy uses will result in co-generation plants and sea thermal power plants. Just as space probes spawned new products for the everyday consumer, research in the advanced technologies bring added convenience. An example is a prospective ALCOA joint venture to develop plastic food containers that can keep foods unrefrigerated for long periods. (Pennsylvania Department of Labor and Industry, 1986c)

Customized job training is another economic development activity that seeks to provide new jobs for Pennsylvania or upgrade current ones so that firms remain in the Commonwealth. Some of the training areas are in newer technologies such as robotics, computer assisted drafting, and computer assisted design. In some instances, industries used customized job training funds to obtain assistance outside of Pennsylvania and even outside of the nation to garner requisite skills and understandings. For additional ideas on occupations in the third era of information and knowledge service, the reader is referred to Swyt (1986, 1987) in the appended Annotated Bibliography.

Labor Supply and Demand

A database was crafted through intergovernmental cooperation for the MICRO-OIS (Microcomputer-based Occupational Information System. It is an initiative of the Pennsylvania Occupational Information Coordinating

Committee, an organization of state education, training, employment, and economic development agencies. Micro-OIS features occupational demand, culled from available jobs and projections of growth and replacement needs.

Occupational supply is determined by identifying the number of completers from vocational schools, (secondary and adult), Pennsylvania Department of Education approved private business and trade schools, two year community colleges and JTPA sponsored programs. Data from the system are available for the state as an aggregate and for each of the Service Delivery Areas that make up the state network for the Job Training Partnership Act. Microcomputers located at the SDA planning offices help make the system accessible and responsive to their needs.

Although detailed projections can be derived by accessing the MICRO-OIS database by computer, the Labor Demand and Supply chart (July 1, 1984 - June 30, 1985) shows estimated and projected annual supply and demand for 1980 and 1990. (Pennsylvania Department of Labor and Industry, 1987a)

CHARACTERISTICS OF PUBLICLY SUPPORTED VOCATIONAL EDUCATION

Information for much of this report has been obtained from the Vocational Education Management Information Systems booklets and database. (Pennsylvania Department of Education, 1984-86)

It is shown in the Vocational Education Program Areas, with the exception of Consumer and Homemaking Education. Data relating to vocational enrollments for 1985-86, completers for 1985-86, and survey results for 1984-85, included in Chapter IV and Appendix D, were possible only through extensive cooperation by Pennsylvania Department of Education personnel who shared their advice and database with the project director.

PENNSYLVANIA PROJECTIONS OF LABOR DEMANDS AND SUPPLY

CIP	Educational Programs (Supply) Occupations (Demand)	Employment Estimated 1988	Employment Projected 1990	Estimated Annual Demand	Estimated Annual Inst. Supply
01	Agricultural Products	134,564	120,142	4,522	3,784
02	Agricultural Science	10,004	9,058	199	633
03	Renewable Natural Resources	6,137	5,511	95	387
04	Architecture & Environ. Design	4,497	4,098	180	641
05	Area & Ethnic Studies	-	-	-	-
06	Business and Management	343,421	354,115	14,183	25,774
07	Business and Office	842,685	915,485	39,286	36,298
08	Marketing & Distribution	892,078	960,822	42,252	11,612
09	Communications	9,684	10,743	417	2,675
10	Communication Technologies	2,722	2,747	166	180
11	Computer & Info.Sciences	26,987	34,344	1,246	8,747
12	Consumer & Personal Services	81,528	87,978	4,479	10,041
13	Education	237,829	234,903	7,724	8,093
14	Engineering	66,275	73,230	2,401	7,835
15	Engineering & Eng. Related Tech	110,628	117,683	3,642	7,050
16	Foreign Languages	-	-	-	-
17	Allied Health	178,865	233,733	13,086	12,045
18	Health Sciences	122,987	157,929	8,204	8,030
19	Home Economics	2,458	3,315	201	897
20	Vocational Home Economics	574,323	636,770	34,600	4,613
21	Industrial Arts	-	-	0	71
22	Law	25,496	30,078	2,236	2,241
23	Letters	4,548	4,787	185	2,586
24	Liberal/General Studies	-	-	-	-
25	Library & Archival Sciences	14,991	14,949	554	231
26	Life Sciences	2,934	3,070	85	2,846
27	Mathematics	2,500	2,833	94	1,202
28	Military Science	-	-	-	-
29	Military Technologies	-	-	0	0
30	Multi/Interdisciplinary Studies	-	-	-	-
31	Parks & Recreation	220	260	11	298
32	Basic Skills	-	-	-	-
33	Citizenship/Civic Act	-	-	0	0
34	Health Related Activities	-	-	0	0
35	Interpersonal Skills	-	-	0	0
36	Leisure & Recreational Activities	1,595	1,785	132	0
37	Personal Awareness	-	-	-	-
38	Philosophy & Religion	-	-	0	588
39	Theology	15,496	14,948	814	1,095
40	Physical Sciences	7,821	8,650	252	2,191
41	Science Technologies	6,760	7,101	154	60
42	Psychology	3,236	4,350	184	2,677
43	Protective Services	99,873	105,109	6,157	2,169
44	Public Affairs	15,831	16,676	727	2,075
45	Social Sciences	2,098	2,458	115	5,660
46	Construction Trades	222,593	223,365	6,843	6,887
47	Mechanics and Repairers	204,962	211,310	6,273	10,214
48	Precision Production	422,152	420,946	11,574	9,313
49	Transportation/Material Moving	229,296	237,692	7,838	1,554
50	Visual Performing Arts	6,023	6,682	316	2,235

Chart 3.1

Source: (Pennsylvania Department of Labor and Industry, 1987a)

Program Graduates by Institution (Training Agency) 7/1/84 - 6/30/85

CIP	Educa. Programs (Supply)Occup. Demand	Estimate Annual Inst. Supply	Sec. Sch.	Pub.Sec. Sch.Off. Adult Train.	Priv. Trade & Tech Sch	Priv. Bus Sch.	Com. Col	Col. & Un Inc. 2 Yr	ATPA
01	Agri. Production	3784	2250	155	-	-	58	1277	44
02	Agri. Sciences	633	-	-	-	-	-	619	14
03	Renew. Nat'l Res.	387	129	39	-	-	21	183	15
04	Archit. & Envir. Design	641	28	7	97	-	9	502	-
05	Area & Ethnic St.	-	-	-	-	-	-	-	-
06	Bus.& Manage.	25774	-	112	-	3217	13869	21044	36
07	Bus.& Office	36298	24482	1670	36	4568	1830	1023	2683
08	Market.& Dist.	11602	2688	244	2551	2883	328	2682	230
09	Communications	2675	-	2	377	-	54	2241	1
10	Commun.Tech.	180	-	6	-	-	50	105	19
11	Comput. & Info. Sciences	8747	1028	606	-	2432	481	3907	295
12	Consum.& Personal Services	10041	1924	45	7900	-	19	31	122
13	Education	8093	-	-	-	-	218	7870	5
14	Engineering	7835	359	-	400	-	126	6920	30
15	Engin. & Eng. Rel. Techs.	7050	1132	428	3082	-	570	1388	450
16	Foreign Lang.	-	-	-	-	-	-	-	-
17	Allied Health	12045	1758	1578	3577	375	1305	1993	1459
18	Health Sciences	8030	-	-	5	-	1062	6924	39
19	Home Economics	897	9	15	70	-	73	710	20
20	Voc. Home Econ.	4613	2431	733	369	-	317	275	488
21	Industrial Arts	71	-	-	51	-	-	-	20
22	Law	2241	-	-	-	525	54	1660	2
23	Letters	2386	-	-	-	-	16	2370	-
24	Lib./Gen.Studies	-	-	-	-	-	-	-	-
25	Lib./Archival Sci.	231	-	-	-	-	9	322	-
26	Life Sciences	2846	-	-	-	-	49	2797	-
27	Mathematics	1202	-	-	-	-	28	1174	-
28	Military Sci.	-	-	-	-	-	-	-	-
29	Military Tech.	-	-	-	-	-	-	-	-
30	Multi/Interdis. Studies	-	-	-	-	-	-	-	-
31	Parks & Rec.	298	-	-	-	-	6	292	-
32	Basic Skills	-	-	-	-	-	-	-	-
33	Citizenship/ Civic Act	-	-	-	-	-	-	-	-
34	Health Related Activities	-	-	-	-	-	-	-	-
35	Interpersonal Sk.	-	-	-	-	-	-	-	-
36	Leisure & Rec.	-	-	-	-	-	-	-	-
37	Personal Aware.	-	-	-	-	-	-	-	-
38	Philosophy & Relig	588	-	-	-	-	-	588	-
39	Theology	1095	-	-	-	-	-	1095	-
40	Physical Science	2191	-	-	-	-	13	2174	4
41	Science Tech	60	19	-	14	-	1	26	-
42	Psychology	2677	-	-	-	-	13	2661	3
43	Protective Serv.	2169	25	43	644	-	302	1000	155
44	Public Affairs	2075	-	-	-	-	38	2031	6
45	Social Sciences	5660	-	-	13	-	75	5572	-
46	Construct.Trades	6887	3928	763	1090	-	312	9	787
47	Mechanics & Repairers	10214	4766	1202	2956	-	430	14	866
48	Precision Prod.	9313	4380	1711	2000	-	494	214	524
49	Transport/Mat. Moving	1554	-	127	1252	27	50	-	98
50	Visual Perform. Arts	2235	-	-	35	-	97	2103	-

Chart 3.2

Source: (Pennsylvania Department of Labor and Industry, 1987a)

Enrollments

Figure 3.7 and the accompanying chart show the vocational education enrollments for 1985-86.

Secondary level programs include enrollments in the major occupational areas in high schools, area vocational technical schools, Intermediate Units, and correctional institutions. Post-secondary includes only the Community Colleges, The Pennsylvania State University, and 56 other institutions. Persons in the adult level vocational education programs in secondary schools also are shown.

Secondary school enrollments as shown in Fig. 3.8 and the accompanying chart exclude not only Consumer and Homemaking Education, but also Intermediate Units (851 persons) and Correctional Institutions (401 persons). Therefore, the total figures shown for secondary are a total for high schools and area vocational technical schools only. This is consistent with the portrayal of the county data in Chapter IV.

Completers

Completers of the 1984-85 vocational education program areas were surveyed as part of a systematic and thorough follow-up process relating to employment.

Principal findings of the follow-up survey are:

(1) Of 72,989 completers of secondary, post secondary and adult vocational education programs, 87.0% of respondents were gainfully employed in training-related employment, non-training-related employment, military service, or in the pursuit of additional education.

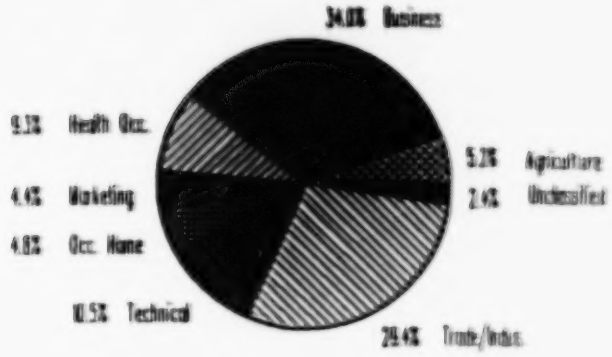
(2) Of 48,391 completers of secondary programs, 87.4% of the respondents were gainfully placed.

(3) Of 15,106 completers of post-secondary programs, 90.3% of the respondents were gainfully placed.

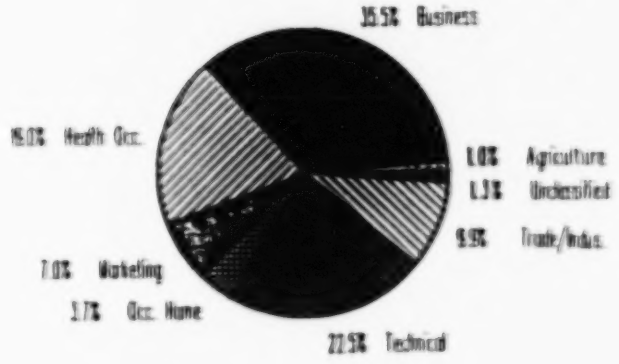
(4) Of 9,492 completers of adult programs, 81.3% were gainfully placed.

Enrollment by Area

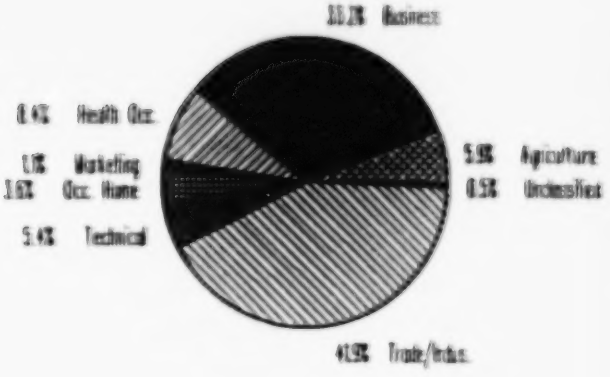
Secondary



Post-Secondary



Adult



ENROLLMENTS BY INSTITUTION TYPE

	Total	Secondary	Post-Sec	Adult
TOTAL	303867	135148	90040	78679
Agriculture	15788	10267	902	4619
Business Ed.	103204	45108	32000	26096
Health Occ.	28294	4557	17094	6643
Marketing and D.E.	13481	6263	6338	880
Occ. Home Ec.	14585	8419	3327	2839
Technical	31989	7477	20255	4217
Trade/Industrial	89247	47371	8914	32962
Unclassified	7279	5686	1170	423

Figure 3.7

Source: (Pennsylvania Department of Education, 1987, Vocational Education Statistics, 1985-86)

ENROLLMENT BY INSTITUTION AND AREA

	High School	AVTS
TOTAL	68167	65729
Agriculture	7832	2384
Business	41196	3901
Health Occupations	800	3757
Marketing and D.E.	3509	2727
Occupational Home Ec.	3150	5201
Technical	489	6988
Trade and Industrial	8320	38617
Unclassified	2871	2154

Figure 3.8

Source: (Pennsylvania Department of Education, 1987, Vocational Education Statistics, 1985-86)

Follow-up data are not available for the 8,712 completers of JTPA programs, 1985-86. There were 13,376 participants enrolled in these programs.

Programs

The following are highlights of vocational educational programs in 1985-86.

Secondary school programs for vocational education including the occupational areas as well as for consumer and homemaking education were provided in 679 schools and 4,269 offerings. Of these programs, 86 AVTS's provided 1,638 offerings and 593 high schools provided 2,631 offerings.

Adult programs in secondary school accounted for a total of 1,802 offerings in 216 schools. 71 AVTS's provided 1,288 offerings, and 145 high schools provided 514 offerings.

Data relating to post secondary institutions are maintained in a different format. A summary of them is as follows:

(1) 67,927 students, or 75.4%, of the 90,040 enrollments in 1985-86 were preparatory.

(2) 21,113, or 24.6%, were reported as supplemental.

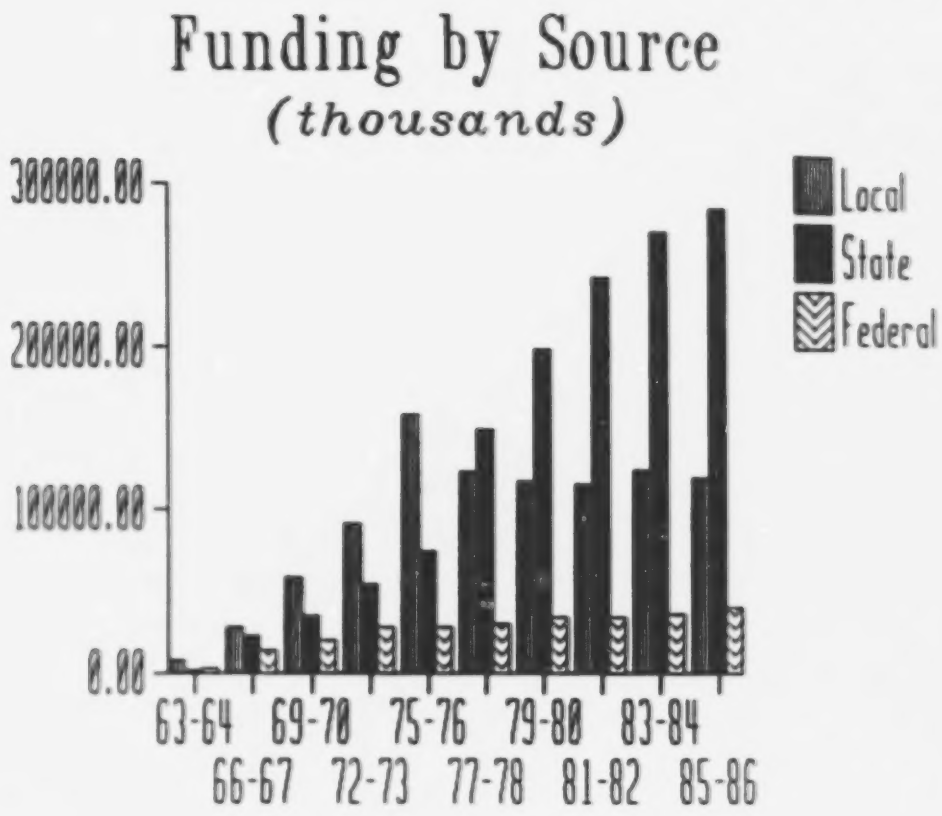
(3) 13,878 preparatory students completed a vocational program, of which 10,286, or 74.1 %, received associate degrees.

(4) Appendix E, Post-Secondary Vocational Education Programs, includes additional information.

Funding sources for vocational education programs during selected years are shown in Figure 3.9 and the accompanying chart.

Services

When reviewing the financial commitments at the local, state and federal level it is important to realize that not all funds are expended in the academic settings discussed previously in this chapter. The budgeting categories in the proposed state budget for FY 1988 indicate the following categories of programs and services.



Funding for Voc.Ed. by Source

F.Y.	Total	Local	State	Federal
63-64	12325	7578	1982	2765
66-67	65580	28364	23412	13804
69-70	112814	58195	34927	19692
72-73	173407	91330	53671	28406
75-76	259681	157940	73672	28069
77-78	301704	122515	148734	30455
79-80	348843	116773	198242	33828
81-82	390666	114634	242207	33825
83-84	430145	123907	270320	35918
85-86	442884	118518	284223	40143

Figure 3.9

Source: (Pennsylvania Department of Education, 1987, Vocational Education Statistics, 1985-86)

Title IIA-Part A Programs

Handicapped/Secondary Allocation
Handicapped/Post Secondary Allocation
Disadvantaged/Secondary Allocation
Disadvantaged/Corrections Education
Disadvantaged/Post Secondary Allocation
Adult Training/AVTS-SD
Adult Training/Young Farmer
Single Parent/Homemaker/Adult
Single Parent/Homemaker/Teen
Single Parent/Homemaker State Level
Sex Equity Program
Sex Equity/State Level
Criminal Offender Program

Title II - Part B Programs

Technical Assistance
Personal Development/Centers
Personal Development/Projects
Curriculum Development
Secondary Allocation (Incl. Industrial Arts)
Post Secondary Competitive
Exemplary Programs
Research Programs
TOPS Programs (Training for Occupations with promise)
Regional Planning (REAP)

Title III- Part A

Community Based Organizations

Title III - Part B

Consumer Homemaking/Teen Parent
Consumer Homemaking/Community Outreach
Consumer Homemaking/State Administration
Consumer Homemaking/State Level

Included in the categories noted above are funds for the special needs population served by publicly supported vocational education. They are:

1. Handicapped
2. Disadvantaged
3. Displaced Homemakers/Single Parents
4. Limited English Speaking

The four areas are not as encompassing as the one noted earlier in the chapter with regard to economic development. A basic assumption is that the four categories of special-needs need additional training and/or a different type of program to help them function better as individuals and to

relieve dependency upon the government. The VEMIS database shows that there were 13,888 handicapped students, 51,570 disadvantaged students and 1,237 limited English proficiency students included in 1985-86 secondary school programs. Their enrollment by program areas in secondary schools is shown below.

Program Area	Handicapped	Disadvantaged	Limited English Proficiency
Agriculture Education	994	2950	7
Business Education	744	12,613	378
Health Occupations Education	393	1,551	41
Marketing and Distribution Ed.	492	2,049	73
Occupational Home Economics	1,780	3,231	67
Technical Education	251	2,138	59
Trade and Industrial Ed.	5,877	15,340	412
Not Elsewhere Classified	743	798	20
Consumer and Homemaking Ed.	2,614	10,900	180
	13,888	51,570	1,237

By eliminating the totals for Consumer and Homemaking Education, the total enrollment in occupational programs would be 11,274 handicapped, 40,670 disadvantaged, and 1,057 limited English proficiency students. Of these totals 5,134 handicapped, 19,912 disadvantaged, and 377 limited English speaking students were enrolled in Area Vocational Technical Schools.

Facilities

At the present time a Vocational Education Tool and Equipment Inventory is being conducted by the Pennsylvania Department of Education's Bureau of Vocational and Adult Education. It is designed in part to assess the impact of funds authorized under Act 1984-107 which provides for

> "Establishing a program within the Department of Education for the acquisition of new vocational technical equipment and the upgrading of existing vocational technical equipment that is necessary to provide secondary, post-secondary and adult students with relevant occupational training, providing for allocations and grants of money and making a non-lapsing appropriation."

Findings from that study will assist planners with the facilities section of the comprehensive state plan.

Intergovernmental Cooperation

Early in his tenure the current Governor of Pennsylvania established a Job Training and Education Task Force. He asked them to review state programs that spend more than $700 million annually. He cited the following points in referring to a lack of coordination or comprehensiveness of approaches among state agencies, and between the public and private sectors.

a. Lack of Coordination/Comprehensive Approach
b. Inadequate Data-Supply and Demand
c. Conflicting Requirements Among Programs
d. Training for Non-Existent Pennsylvania Jobs
e. Adults Who Lack Basic Literacy Skills
f. Lack of Support Services
g. Loss of Jobs and Talented Skilled Individuals
h. Inadequate Training/Upgrading for Current Workforce to Meet Future Needs
i. Vocational Training Performance

The findings of the task force have not been made public to date. It is recommended that the preparers of the Comprehensive State Plan for Vocational Education consider those findings as they relate to assessment of needs.

Regionalization

The Pennsylvania Department of Education implemented a strategy of regional education assessment and planning in July of 1986. The pilot project, which is in its second year of funding, operates in six intermediate units. The Regional Planning Units are:

Allegheny RPU 3
Riverview RPU 6
Capital RPU 15
Central Susquehanna RPU 16
Montgomery RPU 16
Schuylkill RPU 29

Interviews were held with key personnel at each of the sites as part of this current assessment. The staff members were enthusiastic about the cooperation they are receiving in their geographical areas. Examples of items they shared with the interviewers included regionalized labor market surveys, innovative projects of business-industry-education, and commitment of their RPU Committee and General Advisory Committee Members. Each RPU representative discussed a current needs assessment which has been submitted to the Pennsylvania Department of Education. Based on the interviews, it appears that the Regional Planning Units are fulfilling an important role in effective regional operations. The major area of controversy relating to the RPU's deals with the potential allocation of state funds from that level rather than from existing channels.

SUMMARY

Findings from this segment of the study are shown in the main categories of inquiry. They are human capital indicators, occupational characteristics, and characteristics of publicly supported vocational education.

I. Human Capital Indicators

In the analysis, people were considered as human capital investment in our democracy and in our labor force.

A. Population Characteristics

1. Persons born between 1955 and 1965, significant years in the baby boom, coupled with increased life expectancy, are contributing to an aging Pennsylvania and nation.

2. Pennsylvania's population is likely to increase by 2% from 1980 to 1995, then stabilize until the year 2000.

3. Non-white population will increase by a 4% higher rate than the white population.

4. The number of children under the age of 5 will increase by 13% from 1980-90, then decrease by the same percentage until 2000.

5. Elementary school children, ages 5-14, will decline between 1980 and 1985 by 11%, then increase by 7% between 1985 and 2000.

6. High school and college populations will experience a dramatic decline by over 31% between 1980 and 1995, then stabilize until 2000. Of the decline, 85% is a result of the lower birth rates in the "baby bust" years.

7. The labor force, age 20-64, will increase from 6.77 million in 1980 to 7.02 million in 2000.

8. Persons of ages 65-74 will increase by 12% during the 80's, then decrease by 12% during the 1990's. This is a reflection of the 1932 depression era babies moving into retirement age.

9. The number of persons in the age group 75 and over will increase by 63% between 1980 and 2000.

10. Non-metropolitan counties will continue to grow at a 5% greater rate than their urban counterparts.

B. Labor Force Characteristics

1. Pennsylvania has a work force of 5,634,000 persons.

2. The annual average rate of unemployment in 1986 was 6.8%, as compared to the national rate of 7.0%.

3. Minority groups experience a 12.6% unemployment rate.

4. Highest unemployment, 17.2%, is among youth, ages 16 to 19.

C. Characteristics of Employed Persons

1. From 1975 to 1985, the proportion of manufacturing employees to all non-agricultural employees dropped from 30.1% to 23.0%.

2. Projections indicate a drop in the proportion of manufacturing employees to all non-agricultural employees to 20.8% by 1990, and even further, to 18.7%, by 1995.

3. Per capita income in Pennsylvania was $13,437 in 1985, the 22nd in a ranking of 50 states.

4. The annual average wage of persons employed in Pennsylvania in 1985 was $18,611, the 16th in the nation.

D. Characteristics of Unemployed Persons

1. Of Pennsylvania's unemployed persons in 1986, 62.47% were male.

2. 54.62% of Pennsylvania's unemployed persons were between age 25 and 44.

3. Persons 24 and younger had an unemployment rate of 14.13%.

4. Non-manufacturing occupations accounted for 52.95% of the insured unemployed.

E. Characteristics of Special Needs Population

1. The Carl D. Perkins Act mandates access to vocational education for special needs populations.

2. Matching funds are required for certain special needs programs.

3. Allocated federal funds are not being spent by the state because of a lack of matching funds.

4. The Pennsylvania Council on Vocational Education advocates additional state funding to meet 50% of the matching requirements for federal funds.

II. Occupational Characteristics

A. Current Occupations

1. Non-agricultural wage and salary employment covers about 92% of Pennsylvania employees.

2. 8% of Pennsylvania's employees are agricultural workers, self-employed, and family workers.

3. Pennsylvania has a much greater concentration on manufacturing than the nation as a whole.

4. Primary metal trades as well as apparel and related products are key factors in Pennsylvania's manufacturing.

B. Worker Mobility Patterns

1. Imbalances exist across the state because workers are reluctant to relocate.

2. An information based society will place higher demands on the work force but may enhance worker mobility from job to job.

3. The Pennsylvania Council on Vocational Education has encouraged reform relating to career education, K-12, academic foundations, and development of a post-secondary/adult vocational system.

C. Emerging Occupations

1. State economic initiatives are contributing to advanced technology.

2. Many of the customized job training programs relate to the needs of an information system.

D. Labor Supply and Demand

1. Pennsylvania has a modern occupational information system to help planners assess supply and demand.

2. Data from the system are available for the state as a whole, as well as for each of the 28 Service Delivery Areas created under the Job Training Partnership Act.

III. Characteristics of Publicly Supported Vocational Education

A. Enrollments

1. Pennsylvania has a comprehensive database for vocational education statistics.

2. Secondary enrollments include students in the vocational education program areas in high schools, area vocational technical schools, intermediate units, and correctional institutions.

B. Completers

1. 87% of respondents to a follow-up survey indicated they were gainfully employed in training-related or other employment, military service, or the pursuit of additional education.

2. 87.4% of the completers of secondary programs were gainfully placed.

3. 90.3% of post secondary school completers were gainfully placed.

4. 81.2% of the 9,492 completers of adult programs were gainfully placed.

C. Programs

1. Secondary school programs for the occupational areas of vocational education, as well as for consumer and homemaking education, were offered in 4,269 courses in 679 schools.

2. Of these programs, 86 area vocational technical schools provided 1,638 course offerings and 593 high schools provided 2,631 course offerings.

D. Services

1. Vocational education services are provided to special needs populations including the handicapped, disadvantaged, displaced homemakers, single parents, and limited English speaking people.

2. Of the special populations, 13,888 handicapped, 51,570 disadvantaged and 1,237 limited English proficiency students were enrolled in programs in 1985-86.

E. Facilities

1. Act 1984-107 resulted in the acquisition of new equipment and upgrading of existing equipment.

F. Intergovernmental Cooperation

1. Coordination and comprehensiveness of intergovernmental cooperation are priorities of the Task Force.

G. Regionalization

1. Six regional planning units for vocational education are in the second year of a pilot project.

2. Based on interviews with key personnel at each location, the units are fulfilling an important role in regional operations.

The focus of the study now shifts to the counties in Chapter IV.

CHAPTER IV

VOCATIONAL EDUCATION NEEDS IN PENNSYLVANIA COUNTIES

In the previous chapter, the focus was upon data relating to the Commonwealth of Pennsylvania in an aggregate fashion. Because of the diversity of Pennsylvania's population, occupational, and educational characteristics, data at the county level of government are presented in this chapter. An individual profile segment is included in this section which shows nine types of statistical information in tabular and/or graphic fashion. Each profile includes:

I. Regional Information
II. Population
III. Employment Statistics: 1986 Annual Averages
IV. Establishments: Employment and Wages within County, 1984
V. Characteristics of Insured Unemployed
VI. 1986-87 School Enrollments
VII. Targeted Populations
VIII. Labor Supply and Demand
IX. Commuting Patterns

Following the 67 sets of individual county profiles, a summary of findings is provided for each county that also includes reference to some statistical data available only for the JTPA Service Delivery Area in which the county is located.

Note: Because of its length , Chapter IV and its related Appendix D are included in a separate volume in its entirety. For purposes of continuity, this introductory page and the summary pages only are included in this chapter.

SUMMARY OF FINDINGS

This summary, based upon data shown in the profiles for each of the 67 counties, is arranged in a format that can be compared with Pennsylvania statistics. A frame of reference for regional comparison is the overview found in the Pennsylvania Occupational Trends and Outlook, 1984 and Projected 1995 (Pennsylvania Department of Labor and Industry, 1987) and in its 1984 edition which projects data until 1990. The former data are not useful because comparable data at the state level are available only in regional form of Service Delivery Areas or Labor Market Areas. Those publications are based upon methodology and data developed by the U.S. Bureau of Statistics. Since the 1995 projections will not be available for several months, 1990 projections are used herein.

These Pennsylvania statistics should be kept in mind while reading the summaries:

1. Employment in Pennsylvania is projected to increase by 6.6% from 1980 to 1990.

2. Approximately 85% of all job opportunities will result from labor force separations (death, retirements, or withdrawals from the labor force for other reasons).

3. Large volume occupations with little or no growth can create more total job openings than relatively small volume occupations with rapid growth.

4. The 1980-1990 percent distribution of workers by occupational group reflect a continued trend in the occupational shifts from farming and blue collar workers to white collar and service workers. The projections are:

Occupational Group	1980 Empl.	1990 Proj.	Rel % Change
White Collar Workers	49.9	51.0	1.1
Blue Collar Workers	34.1	31.8	-2.3
Service Workers	14.7	16.2	1.5
Farmers & Farm Workers	1.2	0.9	-0.3

5. White collar occupations include professional, technical and kindred; managers and officials; salesworkers; and clerical workers. These jobs are projected to grow at a rate of 8.9% from 1980 to 1990 as compared with an overall average increase in all jobs of 6.6%.

6. Blue collar occupations include craft and kindred workers (skilled), operatives (semi-skilled including transportation as well as manufacturing). Although the number of blue collar jobs are expected to decline by 0.6% from 1980-1990, they will comprise 22% of the annual average job openings as a result of labor force separations.

7. Service occupations include workers in health services, food services, cleaning services, and protective services. The rate of growth is expected to be 17.3% for 1980-1990.

8. Farmers and farm workers, as an occupational group, will continue to decline in the number employed as a result of productivity increases.

The following summaries for the 67 counties are shown in a similar format to facilitate comparisons among them. They are:

ADAMS - Population projections indicate an increase until the year 2000. About 94% of the average job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Farm workers, although in a declining occupational group, are in demand as replacements. Approximately 40% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 691 students were enrolled in occupational programs in high schools.

ALLEGHENY - Population projections indicate a decrease until the year 2000. About 85% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Approximately 5% of workers residing in the county commute to jobs outside of the county. There are 4 AVTS's in the county which operated in 1986-87 at 70% of their Full-Time Equivalent (FTE) enrollment capacity of 2,372 in daytime secondary and adult programs. In 1985-86, 13,715 students were enrolled in occupational programs; 4,478 in AVTS's; and 9,237 in high schools.

ARMSTRONG - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. Preschool and/or elementary school teachers will be needed. Approximately 39% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 70.8% of its Full-Time Equivalent (FTE) enrollment capacity of 696 in daytime secondary and adult programs. In 1985-86, 995 students were enrolled in occupational programs; 529 in the AVTS; and 466 in high schools.

BEAVER - Population projections indicate a decline until the year 2000. About 90% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses are in demand resulting from growth as well as replacement needs. Approximately 29% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 75.5% of its Full-Time Equivalent (FTE) enrollment capacity of 534 in daytime secondary and adult programs. In 1985-86, 2,125 students were enrolled in occupational programs; 841 in AVTS's; and 1284 in high schools.

BEDFORD - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses, secretaries, and food service workers are in demand. Approximately 25% of workers residing in the county commute to jobs outside of the county.

There is 1 AVTS in the county which operated in 1986-87 at 71.7% of its Full-Time Equivalent (FTE) enrollment capacity of 184 in daytime secondary and adult programs. In 1985-86, 934 students were enrolled in occupational programs; 265 in the AVTS; and 669 in high schools.

BERKS - Population projections indicate an increase until the year 2000. About 80% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Secretaries are in high demand as a result of growth as well as replacements. Approximately 13% of workers residing in the county commute to jobs outside of the county. There are 3 AVTS's in the county which operated in 1986-87 at 65.3% of their Full-Time Equivalent (FTE) enrollment capacity of 1,900 in daytime secondary and adult programs. In 1985-86, 3,965 students were enrolled in occupational programs; 2,528 in AVTS's; and 1,437 in high schools.

BLAIR - Population projections indicate a decline until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses, secretaries and food service workers are in demand. Approximately 6% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 67.9% of its Full-Time Equivalent (FTE) enrollment capacity of 1,080 in daytime secondary and adult programs. In 1985-86, 2,894 students were enrolled in occupational programs; 1,563 in the AVTS; and 1,331 in high schools.

BRADFORD - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Approximately 21% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 83.3% of its Full-Time Equivalent (FTE) enrollment capacity of 192 in daytime secondary and adult programs. In 1985-86, 1,084 students were enrolled in occupational programs; 320 in the AVTS; and 764 in high schools.

BUCKS - Population projections indicate an increase until the year 2000. About 90% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Approximately 42% of workers residing in the county commute to jobs outside of the county. There are 3 AVTS's in the county which operated in 1986-87 at 60.9% of their Full-Time Equivalent (FTE) enrollment capacity of 2,066 in daytime secondary and adult programs. In 1985-86, 4,510 students were enrolled in occupational programs; 2,594 in AVTS's; and 1,916 in high schools.

BUTLER - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Secretaries and preschool and/or elementary teachers will be in demand. Approximately 27% of workers residing in the county commute to jobs outside of the county.

There is 1 AVTS in the county which operated in 1986-87 at 76.2% of its Full-Time equivalent (FTE) enrollment capacity of 504 in daytime secondary and adult programs. In 1985-86, 1,529 students were enrolled in occupational programs; 761 in the AVTS; and 768 in high schools.

CAMBRIA - Population projections indicate a decline until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses, secretaries and food service workers are in demand. Approximately 11% of workers residing in the county commute to jobs outside of the county. There are 2 AVTS's in the county which operated in 1986-87 at 55.2% of their Full-Time Equivalent (FTE) enrollment capacity of 2,158 in daytime secondary and adult programs. In 1985-86, 2,676 students were enrolled in occupational programs; 1,637 in AVTS's; and 1,039 in high schools.

CAMERON - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses and secretaries are in demand. Approximately 14% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 28 students were enrolled in occupational programs in high schools.

CARBON - Population projections indicate an increase until the year 2000. About 92% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sewing machine operators, and sales clerks are the three highest occupations in demand. Approximately 40% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 77.9% of its Full-Time Equivalent (FTE) enrollment capacity of 308 in daytime secondary and adult programs. In 1985-86, 833 students were enrolled in occupational programs; 529 in the AVTS; and 304 in high schools.

CENTRE - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, and preschool/elementary school teachers are occupations which will offer the largest number of job openings annually. Approximately 7% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 61.6% of its Full-Time Equivalent (FTE) enrollment capacity of 432 in daytime secondary and adult programs. In 1985-86, 1,117 students were enrolled in occupational programs; 553 in the AVTS; and 564 in high schools.

CHESTER - Population projections indicate an increase until the year 2000. About 90% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Jobs

for secretaries and professional nurses will result from replacements and new positions. Farm laborers will also be in demand. Approximately 37% of workers residing in the county commute to jobs outside of the county. There are 2 AVTS's in the county which operated in 1986-87 at 51.0% of their Full-Time Equivalent (FTE) enrollment capacity of 1,302 in daytime secondary and adult programs. In 1985-86, 2,348 students were enrolled in occupational programs; 1,146 in AVTS's; and 1,202 in high schools.

CLARION - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Jobs for professional nurses and secretaries will result from replacements and new positions. Approximately 22% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 67.3% of its Full-Time Equivalent (FTE) enrollment capacity of 346 in daytime secondary and adult programs. In 1985-86, 927 students were enrolled in occupational programs; 493 in the AVTS; and 434 in high schools.

CLEARFIELD - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, fast food preparation and service workers are occupations which will offer the largest number of job openings annually. Approximately 21% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 71.6% of its Full-Time Equivalent (FTE) enrollment capacity of 363 in daytime secondary and adult programs. In 1985-86, 1,234 students were enrolled in occupational programs; 621 in the AVTS; and 613 in high schools.

CLINTON - Population projections indicate an increase until the year 2000. About 99% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses, and preschool and/or elementary teachers follow janitors/porters/cleaners, sales clerks and secretaries in the number of job openings annually. Approximately 20% of workers residing in the county commute to jobs outside of the county. There is no AVTS in the county. In 1985-86, 254 students were enrolled in occupational programs in high schools.

COLUMBIA - Population projections indicate an increase until the year 2000. About 99% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses, and preschool and/or elementary teachers follow janitors/porters/cleaners, sales clerks and secretaries in the number of job openings annually. Approximately 20% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 94.1% of its Full-Time Equivalent (FTE)

enrollment capacity of 700 in daytime secondary and adult programs. In 1985-86, 1,144 students were enrolled in occupational programs; 619 in the AVTS; and 525 in high schools.

CRAWFORD - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Jobs for professional nurses and secretaries will result from replacements and new positions. Approximately 17% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 86.0% of its Full-Time Equivalent (FTE) enrollment capacity of 378 in daytime secondary and adult programs. In 1985-86, 1,045 students were enrolled in occupational programs; 619 in the AVTS; and 426 in high schools.

CUMBERLAND - Population projections indicate an increase until the year 2000. About 83% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, general office clerks, fast food preparation and service workers, and professional nurses are occupations which will offer the largest number of job openings annually. Approximately 29% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 88.0% of its Full-Time Equivalent (FTE) enrollment capacity of 540 in daytime secondary and adult programs. In 1985-86, 2,015 students were enrolled in occupational programs; 958 in the AVTS; and 1,057 in high schools.

DAUPHIN - Population projections indicate a slight increase until the year 2000. About 83% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, general office clerks, fast food preparation and service workers, and professional nurses are occupations which will offer the largest number of job openings annually. Approximately 19% of workers residing in the county commute to jobs outside of the county. There are 2 AVTS's in the county which operated in 1986-87 at 52.0% of their Full-Time Equivalent (FTE) enrollment capacity of 2,313 in daytime secondary and adult programs. In 1985-86, 2,388 students were enrolled in occupational programs; 1,455 in AVTS's; and 933 in high schools.

DELAWARE - Population projections indicate a decline until the year 2000. About 86% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Secretaries, sales clerks, janitors/porters/cleaners, professional nurses, and general office clerks are occupations which will offer the largest number of job openings annually. Approximately 33% of workers residing in the county commute to jobs outside of the county. There are 3 AVTS's in the county which operated in 1986-87 at 47.0% of their Full-Time Equivalent (FTE) enrollment capacity of 1,915 in daytime secondary and adult programs. In 1985-86, 4,236 students were enrolled in occupational programs; 2,127 in AVTS's; and 2,109 in high

schools.

ELK - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses and secretaries are in demand. Approximately 10% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 172 students were enrolled in occupational programs in high schools.

ERIE - Population projections indicate an increase until the year 2000. About 81% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, secretaries, sales clerks, professional nurses, and nurses' aides/orderlies are occupations which will offer the largest number of job openings annually. Approximately 2.5% of workers residing in the county commute to jobs outside of the county. There are 2 AVTS's in the county which operated in 1986-87 at 51.0% of their Full-Time Equivalent (FTE) enrollment capacity of 2,658 in daytime secondary and adult programs. In 1985-86, 2,842 students were enrolled in occupational programs; 834 in AVTS's; and 2,008 in high schools.

FAYETTE - Population projections indicate a decrease until the year 2000. About 89% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, guards and doorkeepers, preschool and/or elementary school teachers are occupations which will offer the largest number of job openings annually. Approximately 34% of workers residing in the county commute to jobs outside of the county. There are 2 AVTS's in the county which operated in 1986-87 at 77.0% of their Full-Time Equivalent (FTE) enrollment capacity of 888 in daytime secondary and adult programs. In 1985-86, 2,288 students were enrolled in occupational programs; 1,474 in AVTS's; and 814 in high schools.

FOREST - Population projections indicate a slight increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Jobs for professional nurses and secretaries will result from replacements and new positions. Approximately 31% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 41 students were enrolled in occupational programs in high schools.

FRANKLIN - Population projections indicate an increase until the year 2000. About 94% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, fast food preparation and service workers, and farm laborers are occupations which will offer the largest number of job openings annually. Approximately 17% of workers residing in the county commute to jobs outside of the county. There is 1

AVTS in the county which operated in 1986-87 at 135.2% of its Full-Time Equivalent (FTE) enrollment capacity of 443 in daytime secondary and adult programs. In 1985-86, 2,202 students were enrolled in occupational programs; 1,237 in the AVTS; and 965 in high schools.

FULTON - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses, secretaries, and food preparation and service workers are in demand. Approximately 38% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 378 students were enrolled in occupational programs in high schools.

GREENE - Population projections indicate an increase until the year 2000. About 90% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, guards and doorkeepers, fast food preparation and service workers are occupations which will offer the largest number of job openings annually. Approximately 29% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 62.8% of its Full-Time Equivalent (FTE) enrollment capacity of 293 in daytime secondary and adult programs. In 1985-86, 604 students were enrolled in occupational programs; 340 in the AVTS; and 264 in high schools.

HUNTINGDON - Population projections indicate a slight increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses, secretaries and food service workers are in demand. Approximately 28% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 67.5% of its Full-Time Equivalent (FTE) enrollment capacity of 323 in daytime secondary and adult programs. In 1985-86, 903 students were enrolled in occupational programs; 416 in the AVTS; and 487 in high schools.

INDIANA - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. Preschool and/or elementary school teachers will be needed. Approximately 20% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 70.8% of its Full-Time Equivalent (FTE) enrollment capacity of 360 in daytime secondary and adult programs. In 1985-86, 1,304 students were enrolled in occupational programs; 567 in the AVTS; and 737 in high schools.

JEFFERSON - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job

opportunities will occur in the white collar and service occupations. Professional nurses and secretaries are in demand. Approximately 26% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 62.5% of its Full-Time Equivalent (FTE) enrollment capacity of 976 in daytime secondary and adult programs. In 1985-86, 806 students were enrolled in occupational programs; 536 in the AVTS; and 270 in high schools.

JUNIATA - Population projections indicate a slight increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, and preschool/elementary school teachers are occupations which will offer the largest number of job openings annually. Approximately 35% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 466 students were enrolled in occupational programs in high schools.

LACKAWANNA - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, general office clerks, fast food preparation and service workers are occupations which will offer the largest number of job openings annually. Approximately 12.5% of workers residing in the county commute to jobs outside of the county. There are 2 AVTS's in the county which operated in 1986-87 at 37.6% of their Full-Time Equivalent (FTE) enrollment capacity of 1,128 in daytime secondary and adult programs. In 1985-86, 1,881 students were enrolled in occupational programs; 1,303 in the AVTS; and 578 in high schools.

LANCASTER - Population projections indicate an increase until the year 2000. About 80% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Sales clerks, janitors/porters/cleaners, secretaries, farm laborers, general office clerks, fast food preparation and service workers, and nurses' aides/orderlies are occupations which will offer the largest number of job openings annually. Approximately 9% of workers residing in the county commute to jobs outside of the county. There are 3 AVTS's in the county which operated in 1986-87 at 58.6% of their Full-Time Equivalent (FTE) enrollment capacity of 1,335 in daytime secondary and adult programs. In 1985-86, 3,007 students were enrolled in occupational programs; 1,228 in the AVTS; and 1,779 in high schools.

LAWRENCE - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses and fast food preparation and service workers are occupations which will offer the largest number of job openings annually. Approximately 24% of workers

residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 82.7% of its Full-Time Equivalent (FTE) enrollment capacity of 1,040 in daytime secondary and adult programs. In 1985-86, 1,425 students were enrolled in occupational programs; 876 in the AVTS; and 549 in high schools.

LEBANON - Population projections indicate an increase until the year 2000. About 83% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, general office clerks, fast food preparation and service workers, and professional nurses are occupations which will offer the largest number of job openings annually. Approximately 25% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 64.9% of its Full-Time Equivalent (FTE) enrollment capacity of 536 in daytime secondary and adult programs. In 1985-86, 1,333 students were enrolled in occupational programs; 854 in AVTS's; and 479 in high schools.

LEHIGH - Population projections indicate an increase until the year 2000. About 84% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, sewing machine operators, fast food preparation and service workers, professional nurses and general office clerks are occupations which will offer the largest number of job openings annually. Approximately 20% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 98.2% of its Full-Time Equivalent (FTE) enrollment capacity of 1,176 in daytime secondary and adult programs. In 1985-86, 2,400 students were enrolled in occupational programs; 1,546 in AVTS's; and 854 in high schools.

LUZERNE - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Sales clerks, sewing machine operators, janitors/porters/cleaners, secretaries, general office clerks, professional nurses, and cashiers are occupations which will offer the largest number of job openings annually. Approximately 12.0% of workers residing in the county commute to jobs outside of the county. There are 3 AVTS's in the county which operated in 1986-87 at 83.6% of their Full-Time Equivalent (FTE) enrollment capacity of 1,971 in daytime secondary and adult programs. In 1985-86, 4,351 students were enrolled in occupational programs; 2,727 in the AVTS; and 1,624 in high schools.

LYCOMING - Population projections indicate a decrease until the year 2000. About 99% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses, and preschool and/or elementary teachers follow janitors/porters/cleaners, sales clerks and secretaries in the number of job openings annually. Approximately 7% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county

which operated in 1986-87 at 50.4% of its Full-Time Equivalent (FTE) enrollment capacity of 1,200 in daytime secondary and adult programs. In 1985-86, 1,179 students were enrolled in occupational programs; 659 in AVTS's; and 520 in high schools.

MCKEAN - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses and secretaries are in demand. Approximately 11% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 93.7% of its Full-Time Equivalent (FTE) enrollment capacity of 175 in daytime secondary and adult programs. In 1985-86, 1180 students were enrolled in occupational programs; 818 in AVTS's; and 362 in high schools.

MERCER - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses and fast food preparation and service workers are occupations which will offer the largest number of job openings annually. Approximately 16% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 97.3% of its Full-Time Equivalent (FTE) enrollment capacity of 292 in daytime secondary and adult programs. In 1985-86, 1,493 students were enrolled in occupational programs; 533 in the AVTS; and 960 in high schools.

MIFFLIN - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses and secretaries are in demand. Approximately 14% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 96.3% of its Full-Time Equivalent (FTE) enrollment capacity of 216 in daytime secondary and adult programs. In 1985-86, 615 students were enrolled in occupational programs; 448 in the AVTS; and 167 in high schools.

MONROE - Population projections indicate a major increase until the year 2000. About 92% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sewing machine operators, and sales clerks are the three highest occupations in demand. Approximately 19% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 83.1% of its Full-Time Equivalent (FTE) enrollment capacity of 360 in daytime secondary and adult programs. In 1985-86, 914 students were enrolled in occupational programs; 615 in the AVTS; and 299 in high schools.

MONTGOMERY - Population projections indicate an increase until the year 2000. About 86% of the average annual job openings from 1980-1990 in the service

delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Secretaries, sales clerks, janitors/porters/cleaners, professional nurses, general office clerks, and fast food preparation and service workers are occupations which will offer the largest number of job openings annually. Approximately 33% of workers residing in the county commute to jobs outside of the county. There are 4 AVTS's in the county which operated in 1986-87 at 52.7% of their Full-Time Equivalent (FTE) enrollment capacity of 2,192 in daytime secondary and adult programs. In 1985-86, 4,192 students were enrolled in occupational programs; 2,407 in AVTS's; and 1,785 in high schools.

MONTOUR - Population projections indicate a slight increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, and preschool/elementary school teachers are occupations which will offer the largest number of job openings annually. Approximately 28% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 94 students were enrolled in occupational programs in high schools.

NORTHAMPTON - Population projections indicate an increase until the year 2000. About 84% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, sewing machine operators, fast food preparation and service workers, professional nurses and general office clerks are occupations which will offer the largest number of job openings annually. Approximately 33% of workers residing in the county commute to jobs outside of the county. There are 2 AVTS's in the county which operated in 1986-87 at 76.4% of their Full-Time Equivalent (FTE) enrollment capacity of 1,438 in daytime secondary and adult programs. In 1985-86, 2,872 students were enrolled in occupational programs; 2,169 in AVTS's; and 703 in high schools.

NORTHUMBERLAND - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, and preschool/elementary school teachers are occupations which will offer the largest number of job openings annually. Approximately 28% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 42.9% of its Full-Time Equivalent (FTE) enrollment capacity of 497 in daytime secondary and adult programs. In 1985-86, 1,103 students were enrolled in occupational programs; 450 in the AVTS; and 653 in high schools.

PERRY - Population projections indicate an increase until the year 2000. About 83% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, general office clerks, fast food preparation and service workers, and professional nurses are occupations which will offer the

largest number of job openings annually. Approximately 53.5 of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 478 students were enrolled in occupational programs in high schools.

PHILADELPHIA - Population projections indicate a decrease until the year 2000. About 88% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, secretaries, guards and doorkeepers, sales clerks, general office clerks, and nurses' aides/orderlies, and professional nurses are occupations which will offer the largest number of job openings annually. Approximately 14.5% of workers residing in the county commute to jobs outside of the county. There are 6 AVTS's in the county which operated in 1986-87 at 67.7% of their Full-Time Equivalent (FTE) enrollment capacity of 8,416 in daytime secondary and adult programs. In 1985-86, 19,814 students were enrolled in occupational programs. AVTS enrollment was not reported separately.

PIKE - Population projections indicate a major increase until the year 2000. About 92% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sewing machine operators, and sales clerks are the three highest occupations in demand. Approximately 60% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 162 students were enrolled in occupational programs in high schools.

POTTER - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses and secretaries are in demand. Approximately 27.5% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 256 students were enrolled in occupational programs in high schools.

SCHUYLKILL - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Sales clerks, sewing machine operators, janitors/porters/cleaners, secretaries, general office clerks, professional nurses, and cashiers are occupations which will offer the largest number of job openings annually. Approximately 11.5% of workers residing in the county commute to jobs outside of the county. There are 2 AVTS's in the county which operated in 1986-87 at 58.9% of their Full-Time Equivalent (FTE) enrollment capacity of 918 in daytime secondary and adult programs. In 1985-86, 2,188 students were enrolled in occupational programs; 1,149 in the AVTS; and 1,039 in high schools.

SNYDER - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, and preschool/elementary school

teachers are occupations which will offer the largest number of job openings annually. Approximately 29% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 331 students were enrolled in occupational programs in high schools.

SOMERSET - Population projections indicate a slight increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Professional nurses, secretaries and food service workers are in demand. Approximately 27% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 67.8% of its Full-Time Equivalent (FTE) enrollment capacity of 497 in daytime secondary and adult programs. In 1985-86, 1,411 students were enrolled in occupational programs; 624 in the AVTS; and 787 in high schools.

SULLIVAN - Population projections indicate a steady decline until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Approximately 34% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 21 students were enrolled in occupational programs in high schools.

SUSQUEHANNA - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Approximately 42% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 89.4% of its Full-Time Equivalent (FTE) enrollment capacity of 180 in daytime secondary and adult programs. In 1985-86, 567 students were enrolled in occupational programs; 257 in the AVTS; and 310 in high schools.

TIOGA - Population projections indicate a slight decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Approximately 22% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 476 students were enrolled in occupational programs in high schools.

UNION - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, and preschool/elementary school teachers are occupations which will offer the largest number of job openings annually. Approximately 32% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 55.9% of its Full-Time Equivalent (FTE) enrollment capacity of 254 in daytime secondary and adult programs. In 1985-86, 461 students

were enrolled in occupational programs; 292 in the AVTS; and 269 in high schools.

VENANGO - Population projections indicate a decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Jobs for professional nurses and secretaries will result from replacements and new positions. Approximately 13% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 65.0% of its Full-Time Equivalent (FTE) enrollment capacity of 443 in daytime secondary and adult programs. In 1985-86, 1,011 students were enrolled in occupational programs; 723 in the AVTS; and 288 in high schools.

WARREN - Population projections indicate a slight decrease until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Jobs for professional nurses and secretaries will result from replacements and new positions. Approximately 12% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 80.9% of its Full-Time Equivalent (FTE) enrollment capacity of 329 in daytime secondary and adult programs. In 1985-86, 666 students were enrolled in occupational programs; 629 in the AVTS; and 37 in high schools.

WASHINGTON - Population projections indicate a decrease until the year 2000. About 90% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, guards and doorkeepers, fast food preparation and service workers are occupations which will be that offer the largest number of job openings annually. Approximately 32.5% of workers residing in the county commute to jobs outside of the county. There are 2 AVTS's in the county which operated in 1986-87 at 73.2% of their Full-Time Equivalent (FTE) enrollment capacity of 693 in daytime secondary and adult programs. In 1985-86, 2,034 students were enrolled in occupational programs; 1,036 in the AVTS; and 998 in high schools.

WAYNE - Population projections indicate an increase until the year 2000. About 92% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sewing machine operators, and sales clerks are the three highest occupations in demand. Approximately 31% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 337 students were enrolled in occupational programs in high schools.

WESTMORELAND - Population projections indicate a decrease until the year 2000. About 89% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Janitors/porters/cleaners, sales clerks, secretaries, professional nurses, guards and doorkeepers,

preschool and/or elementary school teachers are occupations which will offer the largest number of job openings annually. Approximately 33.5% of workers residing in the county commute to jobs outside of the county. There are 3 AVTS's in the county which operated in 1986-87 at 77.1% of their Full-Time Equivalent (FTE) enrollment capacity of 1,537 in daytime secondary and adult programs. In 1985-86, 4,319 students were enrolled in occupational programs; 2,473 in AVTS's; and 1,846 in high schools.

WYOMING - Population projections indicate an increase until the year 2000. About 100% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Approximately 37% of workers residing in the county commute to jobs outside of the county. There are no AVTS's in the county. In 1985-86, 421 students were enrolled in high schools.

YORK - Population projections indicate an increase until the year 2000. About 92% of the average annual job openings from 1980-1990 in the service delivery area will result from job replacements. New job opportunities will occur in the white collar and service occupations. Sales clerks, janitors/porters/cleaners, secretaries, fast food preparation and service workers, and cashiers are occupations which will offer the largest number of job openings annually. Approximately 16% of workers residing in the county commute to jobs outside of the county. There is 1 AVTS in the county which operated in 1986-87 at 63.9% of its Full-Time Equivalent (FTE) enrollment capacity of 1,937 in daytime secondary and adult programs. In 1985-86, 3,047 students were enrolled in occupational programs; 1,238 in the AVTS; and 1,809 in high schools.

As noted in each county profile, vocational education information is found in Appendix D. Specifically, secondary school enrollments and completers, by county, are shown for total secondary, AVTS, and high school populations, 1985-86. Follow-up information, by county, is shown for those student populations, 1984-85. Included in Appendix D are the secondary school vocational areas minus the non-occupational Consumer and Homemaking Education category. Comparisons with other data shown in each County Profile, found on the second page in each county analysis, are, therefore, possible. Data, by county, are not usually available from VEMIS but PDE personnel assisted the research team in providing computerized data for subsequent analysis on a mainframe computer. Also included in Appendix D are four tables portraying follow-up results of surveys of secondary and adult program completers, by county, for 1984-85 and 1985-86.

Chapter V is a summary of the findings in Chapters I through IV.

CHAPTER V

SUMMARY OF FINDINGS

The purpose of this report was to assess the needs of the Commonwealth of Pennsylvania as they relate to publicly supported vocational education. Questions raised in the initial chapter focused on three areas as they relate to Pennsylvania and its 67 counties. They are:

1. What are the human capital indicators?
2. What are the occupational characteristics?
3. What are the characteristics of publicly supported vocational education?

This chapter considers a review of the findings regarding the three areas as well as findings from the review of related studies. The findings are organized under the headings of the respective chapters.

FINDINGS FROM CHAPTER I: INTRODUCTION

I. Findings Regarding Concerns of Blue Ribbon Panel Members

It was reported in the initial chapter that the Bureau of Vocational and Adult Education convened a Blue Ribbon Panel to focus on the assessment and to share their priorities and concerns. That session was held on August 18, 1987 at the Pennsylvania Department of Education, Harrisburg, Pennsylvania. In that first of three sessions relating to the 1988-1990 State Comprehensive Plan for Vocational Education, each of the members in attendance reported three main concerns. Their comments, which follow, were made as panel participants and may not reflect official positions of organization they represent.

A. Joanne Cashman, Pennsylvania Association of Vocational Education Special Needs Personnel.

1. Despite the publication of demographic studies clearly delineating the population to be served, there continues to be general skepticism concerning the suitability of the handicapped and disadvantaged for vocational training.

2. There are few well developed comprehensive support systems for vocational educators who instruct special needs students in a traditional setting, and fewer effective assessment programs to design appropriate intervention and support profiles.

3. There are few programs which compliment skill development with a systematic program of interpersonal development and employability training.

B. Edwin Coyle, Pennsylvania Association of School Administrators

1. Funding would be the primary issue concerning the fiscal solvency of the Area Vocational Technical Schools.

   (a) Student tuition
   (b) Equipment replacement
   (c) Capital improvement of plant
   (d) Equity issue concerning tuition

2. The coordination and the collaboration that is needed between sending schools and the Area Vocational Technical Schools concerning Chapter 5 and Chapter 6 requirements:

   (a) Physical education
   (b) Carnegie units
   (c) Elective programs
   (d) Reduced time in vocational technical shops

3. The third concern that I would personally have concerning the Vocational Technical Schools within the Commonwealth of Pennsylvania deals with a master plan of making sure that every school district has a viable vocational technical school program accessible to its students and one that is also tied into community colleges.

C. Jacqueline L. Cullen, Pennsylvania Council of Vocational Education

1. Need for development and implementation of a coordinated and integrated system of post-secondary and adult vocational education, which includes JTPA clients and which provides for expansion of services into those geographic areas which are currently unserved and/or under-served.

2. Need to improve the academic skills of secondary vocational education students.

3. Need for better/more programs to meet needs of "at risk" students, especially the disadvantaged.

D. George N. Demshock, Pennsylvania State Education Association

1. Chapter 5 Curriculum Regulations are causing reductions in vocational education offerings in comprehensive high schools and reductions of 3 and 2 year programs in vocational technical schools to one year offerings as well as reducing vo-tech school clock hour mandates.

2. The Bureau of Vocational Education staff has been so decimated in numbers that they cannot function in state leadership roles; as a consequence, vocational education has been diminished as a vital part of basic education in our Commonwealth.

3. Realistic vocational education maximum class sizes must be established for student safety as well as teaching efficiency.

E. Dorsey Enck, Pennsylvania School Board Association

1. What is the direction for programs of vocational education? What are the needs to be filled in this important aspect of education?

2. How do we train and re-train teachers to meet the flexible programs required to meet Vocational Education needs?

3. How do we plan for funding these programs with an eye on accountability, timeliness and flexibility?

F. John Fitzpatrick, Pennsylvania Federation of Teachers

1. Adequate funding of vocational education programs to replace antiquated equipment and revitalize existing programs.

2. PDE certification requirements discourage skilled vocational education people from entering the teaching ranks. The fee required for vocational education certification is especially irksome to vocational education teachers.

3. An active effort must be made to recruit new vocational education people. Too many vocational education teachers are leaving the field discouraged. Too many are turned off by the "hassle" of the system.

G. Dr.Peter Garland, Executive Assistant to Commissioner of Higher Education

1. Dr. Garland commented upon the need to include roles and relationships with higher education in the master plan.

H. William Kimmell, State Board for Vocational Education

1. Up-grading present programs and equipment. Better cooperation between sending schools. Chapter 5 and 6. Early involvement of students to vocational education.

2. Adult education and articulation, technical institutes, staffing in PDE.

3. Funding to follow the student. Better funding for adult education - state and 50% attendance.

I. Dr. S.V. Martorana, Pennsylvania Association of Colleges and Universities

1. Clarifying the purpose and place of vocational (occupational) education in post-secondary education broadly defined, i.e., all places that serve persons who have completed high school or who have progressed beyond the normal age of high school attendance (proprietary schools, business/industry training programs, AVTS, public and private two-year and four-year colleges.)

2. Coordinating programming of vocational (occupational) education between and among all of the many institutions and agencies that are now providing it to assure: (a) access to students, (b) effectiveness of programs/operations, and (c) efficiency of programs/operations.

3. Funding to assure successful accomplishment of the foregoing two objectives and maintenance of the indicated outcomes on a strong and continuing basis.

J. Martha Phelps, JTPA Service Delivery Area Association

1. Provide incentives for or remove barriers to vocational education institutions; openly and energetically pursue opportunities to train JTPA eligible participants.

2. Put in place mechanisms to allow/encourage (whichever applies) vocational education institutions to engage in performance based contracting.

3. Increase funding to update classroom equipment to keep current with technology.

K. John Polto, Pennsylvania Vocational Association

1. Improve access to vocational school from sending school - increase subsidies.

2. Funding - updating equipment

3. Regionalization - Are we doing it or not? Mixed signals from the Bureau. Need real leadership from state officials.

L. Peter Uhlig, Vocational Administrators of Pennsylvania

1. Commissioner of Vocational Education

2. Articulation of secondary and post-secondary vocational education along with appropriate funding.

3. Establish a clear role for vocational education relative to education and economic development.

II. FINDINGS REGARDING AVAILABLE DATA

1. Pennsylvania Department of Education: Vocational Education Management Information System

2. Pennsylvania Department of Labor and Industry: Current Material Organizer for Service Delivery Areas (Job Training Partnership Act)

3. Pennsylvania Micro-Occupational Information System

4. Pennsylvania State University Data Center Population Projections

5. State Policy Data Book/Diskette, 1987, (a compilation of comparative statistics from federal documents)

FINDINGS FROM CHAPTER II: REVIEW OF RELATED STUDIES

In this chapter, related studies were identified and analyzed from the points of view of Business/Industry and Education. Findings are arranged in the three main areas of inquiry, which are human capital indicators, occupational needs, and vocational education. Understandings from National Studies precede those from Pennsylvania Studies.

I. National Studies

A. Findings regarding Human Capital Indicators

1. Business/Industry considers human capital to be the accumulated knowledge, skill and experience people bring to productivity.

2. Women comprise 40% of the work force, but only 17% of all managers and executives.

3. Despite early retirements, the over 35 age group makes up more than half of the present work force.

4. Minorities comprise 12.2% of the general population, yet less than 10% of the nation's employed.

5. A shift to an information based society requires basic learning as well as academic skills.

B. Findings Regarding Occupational Needs

1. America is entering a new era that is transforming it from labor-intensive manufacturing to information-intensive service.

2. Information processing skills as well as a service orientation are essential in contemporary America.

3. Mismatches in skill and geography contribute to labor shortages.

4. Most readily available jobs will be service oriented and computer compatible.

5. Businesses are likely to locate only where people are available to match job attributes.

6. Educators are concerned that jobs dependent upon informational skills and a commitment to service will be primarily for college educated persons.

C. Findings Regarding Vocational Education

1. Business/Industry considers it essential that students and new workers are taught how to up-date their skills as their jobs evolve.

2. Trainees should be encouraged to learn a cluster of technologies rather than focus on a single vocational area.

3. Making education relevant to work must not be done at the expense of stressing character, values and intellect.

4. Although self critical about their programs, educators have a concern that business/industry,in the interest of proprietary secrecy, says nothing specific about future occupational needs.

5. Advocates for technology education from elementary school through the doctoral level feel that basic principles of technology must complement academic and job-specific training.

6. An extensive computer literacy component is an essential part of an educational program.

II. Pennsylvania Studies

A. Findings Regarding Human Capital Indicators

1. Pennsylvania population is the third most aged in the nation.

2. By the year 2000, Pennsylvania's population of young adults (age 15-24) will have declined by 31% from 1980 - 2000 and the number of people over 75 will have increased by 63% in that time period.

3. Pennsylvania's mature work force today will become smaller and less experienced as population projections become reality.

4. Middle-aged Pennsylvanians must develop information processing skills and a service mentality to fill knowledge based jobs.

5. Educators see the possibility of older adults and homemakers who have children, entering the work force.

6. Of the 115,000 Pennsylvanians participating in the 1985 JTPA, basic skills and occupational programs, nearly half are on public assistance.

B. Findings Regarding Occupational Needs in Pennsylvania

1. Eastern Pennsylvania is beginning to experience a labor shortage as a result of an expanding economy, low employment rates, and changing skill needs.

2. Job prospects in service and precision assembly industries will continue to be high, but available only to those with appropriate skills.

3. If employment patterns of 1985 continue, young people, ages 16-19, will lead the unemployed at 18% and minorities will comprise 15% of the total.

4. Adequately trained teachers of information processing skills are in short supply.

5. Interest in information science among students is not high.

C. Findings regarding Vocational Education in Pennsylvania

1. Business/Industry advocates expansion and improvement of the quality of the labor pool and elimination of mismatches in skill and geography.

2. Employees recommend cooperative programs between business/industry and education

3. The Governor of Pennsylvania has pledged to allocate state funds for basic skills, adult literacy programs, dropout prevention, and counseling for vocational education students.

4. The current Master Plan for Higher Education takes into consideration demographic trends, economic factors, and labor market needs.

5. Three factors must be adjusted at the same time. They are:

   a. Human capital that includes an element of experience.
   b. Occupational needs that include more opportunities for the disenfranchised.
   c. Vocational education that includes more service motivation and more information technology.

FINDINGS FROM CHAPTER III: VOCATIONAL EDUCATION NEEDS IN PENNSYLVANIA

Findings in Chapter III relate to the three major questions set forth in the initial chapter. They are shown under the headings of human capital indicators, occupational characteristics, and vocational education characteristics.

FINDINGS REGARDING HUMAN CAPITAL INDICATORS IN PENNSYLVANIA

I. Human Capital Indicators

In the analysis, people were considered as a human capital investment in our democracy and in our labor force.

A. Population Characteristics

1. Persons born between 1955 and 1965, significant years in the baby boom, coupled with increased life expectancy, are contributing to an aging Pennsylvania and nation.

2. Pennsylvania's population is likely to increase by 2% from 1980 to 1995, then stabilize until the year 2000.

3. Non-white population will increase by a 4% higher rate than the white population.

4. The number of children under the age of 5 will increase by 13% from 1980-90, then decrease by the same percentage until 2000.

5. Elementary school children, ages 5-14, will decline between 1980 and 1985 by 11%, then increase by 7% between 1985 and 2000.

6. High school and college population will experience a dramatic decline by over 31% between 1980 and 1995, then stabilize until 2000. Of the decline, 85% is a result of lower birth rates in the "baby bust" years.

7. The labor force, age 20-64, will increase from 6.77 million in 1980 to 7.02 million in 2000.

8. Persons, ages 65-74, will increase by 12% during the 80's, then decrease by 12% during the 1990's. This is a reflection of the 1932 depression era babies moving into retirement age.

9. The number of persons in the age group 75 and over will increase by 63% between 1980 and 2000.

10. Non-metropolitan counties will continue to grow at a 5% greater rate than their urban counterparts.

B. Labor Force Characteristics

1. Pennsylvania has a work force of 5,634,000 persons.

2. The annual average unemployment in1986 was 6.8% as compared to the national rate of 7.0%.

3. Minority groups experience a 12.6% unemployment rate.

4. Highest unemployment, 17.2%, is among 16 to 19 year olds.

C. Characteristics of Employed Persons

1. From 1975 to 1985, the proportion of manufacturing employees to all non-agricultural employees dropped from 30.1% to 23.0%.

2. Projections indicate a drop in the proportion of manufacturing employees to all non-agricultural employees to 20.8% by 1990, and even further, to 18.7%, by 1995.

3. Per capita income in Pennsylvania was $13,437 in 1985, the 22nd in a ranking of 50 states.

4. The annual average wage of persons employed in Pennsylvania in 1985 was $18,611, the 16th in the nation.

D. Characteristics of Unemployed Persons

1. Of Pennsylvania's unemployed persons in 1986, 62.47% were male.

2. 54.62% of Pennsylvania's unemployed persons were between age 25 and 44.

3. Persons 24 and younger had an unemployment rate of 14.13%.

4. Non-manufacturing occupations accounted for 52.95% of the insured unemployed.

E. Characteristics of Special Needs Population

1. The Carl D. Perkins Act mandates access to vocational education for special needs populations.

2. Matching funds are required for certain special needs programs.

3. Allocated federal funds are not being spent by the state because of a lack of matching funds.

4. The Pennsylvania Council on Vocational Education advocates additional state funding to meet 50% of the matching requirements for federal funds.

II. Occupational Characteristics

A. Current Occupations

1. Non-agricultural wage and salary employment covers about 92% of Pennsylvania employees.

2. 8% of Pennsylvania's employees are agricultural workers, self-employed, and family workers.

3. Pennsylvania has a much greater concentration on manufacturing than the nation as a whole.

4. Primary metal trades as well as apparel and related products are key factors in Pennsylvania's manufacturing.

B. Worker Mobility Patterns

1. Imbalances exist across the state because workers are reluctant to relocate.

2. An information-based society will place higher demands on the work force but may enhance worker mobility from job to job.

3. The Pennsylvania Council on Vocational Education has encouraged reform relating to career education, K-12, academic foundations, and development of a post-secondary/adult vocational system.

C. Emerging Occupations

1. State economic initiatives are contributing to advanced technology.

2. Many of the customized job training programs relate to the needs of an information system.

D. Labor Supply and Demand

1. Pennsylvania has a modern occupational information system to help planners assess supply and demand.

2. Data from the system are available for the state as a whole as well as each of the 28 Service Delivery Areas created under the Job Training Partnership Act.

III. Characteristics of Publicly Supported Vocational Education

A. Enrollments

1. Pennsylvania has a comprehensive database for vocational education statistics.

2. Secondary enrollments include students in the vocational education program areas in high schools, area vocational technical schools, intermediate units, and correctional institutions.

B. Completers

1. 87% of respondents to a follow-up survey indicated they were gainfully employed in training-related or other employment, military service, or the pursuit of additional education.

2. 87.4% of the completers of secondary programs were gainfully placed.

3. 90.3% of post-secondary school completers were gainfully placed.

4. 81.2% of the 9,492 completers of adult programs were gainfully placed.

C. Programs

1. Secondary school programs for the occupational areas of vocational education, as well as for consumer and homemaking education, were offered in 4,269 courses in 679 schools.

2. Of these programs, 86 area vocational technical schools provided 1,638 course offerings and 593 high schools provided 2,631 course offerings.

D. Services

1. Vocational education services are provided to special needs populations, including the handicapped, disadvantaged, displaced homemakers, single parents, and limited English speaking people.

2. Of the special populations, 13,888 handicapped, 51,570 disadvantaged and 1,237 limited English proficiency students were enrolled in programs in 1985-86.

E. Facilities

1. Act 1984-107 resulted in the acquisition of new equipment and upgrading of existing equipment.

F. Intergovernmental Cooperation

1. Coordination and comprehensiveness of intergovernmental cooperation are priorities of the Task Force.

G. Regionalization

1. Six regional planning units for vocational education are in the second year of a pilot project.

2. Based on interviews with key personnel at each location, the units are fulfilling an important role in regional operations.

FINDINGS FROM CHAPTER IV: VOCATIONAL EDUCATION NEEDS IN PENNSYLVANIA

Findings relating to the county units of government are shown in Chapter IV of this report and in a separate volume entitled "County Data". Statistical data are included therein in a seven-page profile for each of the 67 counties which includes the following:

I. Regional Information
II. Population
III. Employment Statistics: 1986 Annual Averages
IV. Establishments: Employment and Wages within County, 1984
V. Characteristics of Insured Unemployed
VI. 1986-87 School Enrollments
VII. Targeted Populations
VIII. Labor Supply and Demand
IX. Commuting Patterns

Since the summary of findings is included in the two other locations noted above, it is not repeated in this chapter.

Recommendations relating to the findings included in this chapter follow in Chapter VI.

CHAPTER VI

RECOMMENDATIONS

Findings from the previous chapters relate to three factors that have been the focus of this assessment. They are human capital, occupations, and vocational education.

Recommendations provided in this chapter suggest the need to bring those three areas into a better balance with regard to an educated citizenry and competent work force. Accordingly, the following recommendations are made.

1. Pennsylvania needs to consider education, employment and training expenditures as an investment in human capital to meet its needs for the work force.

   a. Persons in the work force need to be upgraded and provided with flexible skills.

   b. Those outside the work force, especially minorities, youth, and special needs population, must be attracted to, and trained for, the work force.

   c. Efforts to prevent people from leaving the work force are essential for segments of the population which are dropping out because of pregnancies, discouragement and other factors.

   d. Pennsylvania should allocate additional matching funds from the state level to help provide programs for the populations noted in b. and c. above.

   e. Intergovernmental cooperation, especially with JTPA funded programs in vocational schools, would enhance state initiatives to develop human capital.

2. Career development should be part of education from initial entry and continue throughout all programs.

   a. Persons entering the work force today are likely to change occupations 5 to 7 times in their careers.

   b. Since changes occur from personal desire as well as forced unemployment, job searching skills are an essential component of all education programs.

3. Basic academic competencies as well as learning skills need to be reinforced and/or developed in every curriculum.

a. Successful programs such as the inclusion of applied math and science in vocational programs at Beaver County AVTS need to be encouraged.

b. The Pennsylvania Department of Education should continue its involvement with the "Principles of Technology Curriculum" which incorporates basic skills in learning specific modules.

4. Pennsylvania needs to develop an articulated secondary/post-secondary/adult vocational education system.

   a. Occupational trends demand high skills in the existing and projected work force.

   b. Population shifts may lead to ineffective use of existing building capacity and programs.

   c. Formal agreements among secondary and post-secondary schools should enhance existing models such as advanced placement, prevtech, and the vocational technical 2 + 2 model.

   d. Successful models existing in many geographic areas of Pennsylvania should be emulated.

5. Vocational education needs to adopt a cluster approach to the occupational needs in Pennsylvania.

   a. Flexibility is a key ingredient for job success.

   b. Rapidly changing industries require persons with multiple skills.

   c. An existing model at The Pennsylvania State University which is designed to enhance the cluster approach should be implemented more extensively at all organizational levels.

6. Business/industry/education cooperative efforts should continue and be expanded.

   a. Findings of the assessment indicate that most job openings will be as a result of replacements.

   b. Employers' desires regarding the competencies of job entrants as well as those needing upgrades should be discussed with vocational educators at all levels.

   c. Information regarding emerging occupations should be one of the outcomes of close communication.

   d. Economic development initiatives such as customized job training should include some upgrading for educators in addition to their coordination of CJT programs for Business/Industry.

7. Computer literacy must be considered as a basic skill in all vocational education programs.

   a. The shift from an agrarian to a manufacturing economy is being transformed to an information-based service economy.

b. A knowledge of computers is basic to most of the upgrades and is becoming a requisite in many entry level jobs.

8. Marketing and recruitment efforts for vocational education at secondary and post-secondary levels are recommended.

   a. Statistical data that exists relating to success in employment need to be disseminated.

   b. Pending labor shortages as a result of an aging labor force require an infusion of trainees.

9. The movement toward intergovernmental cooperation must continue and be strengthened.

   a. Initiatives designed to reduce dependency on government must include labor, welfare, human services, and other agencies as well as educators.

   b. Intergovernmental agency agreements are recommended to solidify cooperation.

10. Current initiatives of the Governor in economic development and other priorities need to be coordinated with vocational educators.

   a. The forthcoming reports from committees such as the Job Training and Education Task Force need to be considered with regard to vocational education.

   b. Coordination with the State Job Training Council relating to JTPA must continue.

11. The Regional Education, Assessment and Planning effort should continue to provide improved access and opportunity to vocational education and employment for Pennsylvanians.

   a. Existing programs in the six model units should be evaluated and their successes emulated in other areas.

   b. Attention in regionalization needs to be upon those constituencies who are not being served, as well as coordinating existing programs.

12. Existing vacancies in the Pennsylvania Department of Education Bureau of Adult and Vocational Education must be filled as soon as possible to provide essential leadership and staffing.

Appendixes A, B, C and E are included in this volume as supplementary data. Volume II contains County Data and Appendix D.

APPENDIX A - ANNOTATED BIBLIOGRAPHY

Bell, Daniel, 1976. The Coming of Post-Industrial Society: A Venture in Social Forecasting. New York: Basic Books.

This frequently quoted work provides a framework for our thinking about social, economic, and technological development, and has served as a springboard for authors such as Toffler and Naisbitt. Perhaps one of the lasting contributions of this book is in its redefinition of science and technology, from the nineteenth-century image of "a bounded or exhaustible field of knowledge whose dimensions would eventually be fully explored," to a modern understanding of science and technology as forever dynamic, "each advance opening up, sometimes rapidly, sometimes slowly, new fields which, in turn, sprout their own branches" (p. 186). This picture of an ever-branching, complex, and changing body of knowledge helps explain why so many people find themselves without appropriate work skills and without appropriate ways of thinking and interacting.

Casey, Robert P., 1987a. 100 Days: A Report. Harrisburg, Pennsylvania: Office of the Governor.

This interim report outlines the administration's achievements during the first 100 days of office. Among the advances cited are a proposed increase of $214 million in state aid for basic education, $3 million for adult literacy, $500,000 for dropout prevention, and $500,000 for vocational counseling.

Casey, Robert P., 1987b. Statement of the Problem and Task Force Assignment to the Job Training and Education Task Force of the Economic Development Partnership. [Harrisburg, Pennsylvania: Office of the Governor.]

This charge indicts Pennsylvania's job training program as an "abysmal failure" (cover letter), and asks for recommendations on 10 points: literacy; school-to-work transition; needed skills; retraining; dislocation; hard core unemployed; unique skills training; day care and other special services; matching jobs with training; and management information systems.

Cetron, Marvin J., 1985. Schools of the Future. New York: McGraw-Hill Book Company.

This work looks at the plight of the American school system, and outlines what is being done now to plan for the schools of tomorrow. Schools of tomorrow will succeed only if the business and education communities cooperate in the effort. Here is the author's reasoning: because of the speed of high-tech change, workers will need retraining every five or ten years; this means that public schools will have take a greater responsibility for job training, both of young and adult workers. This retraining program will emphasize

basic academic skills, and the teachers of these skills will be in great demand.

Cetron, Marvin J., 1986. "Technology Will Shape the Way We Live." State Government, 59:4.

This article observes that scientific and technological advances, especially in the fields of medicine, electronics, and genetics, are changing our lives permanently. We need to take this fact into account in planning for the future, both in career planning, and job retraining. We should not be afraid that our chosen occupation may vanish in time, or that we might be replaced by a computer. A flexible and responsive continuing education system would allow people to adapt to changes in job requirements (retraining may need to occur as frequently as every five years), and a pervasive use of high technology will create four new jobs for every one job lost.

Choate, Pat, and Linger, J. K., 1986. The High-Flex Society. New York, New York: Alfred A. Knopf.

This monograph explores the idea of eliminating barriers, or "chokepoints," to flexibility in the workplace. The flexibility of workers, the author claims, "is being sharply diminished by formidable bureaucratic, financial, and social chokepoints" (p. 227). Chief among these barriers are: (1) a lack of information about available jobs; (2) discrimination in the workplace; (3) lack of child care facilities; and (4) a lack of portable pensions.

Cohen, Audrey C., 1986. "The New Service Economy and Its Implications for the Future." State Government, 59:4.

This article signifies the emergence of a predominantly service-oriented society. Presently, over 75% of all American work in the service sector of the economy, and by the year 2000 that percentage is expected to increase to 85%. The time is now, suggests this author, for many of us to learn how to serve others, if we are to become a part of needed human capital in the future. Our institutions (schools, businesses, and government agencies) are yet to fully appreciate the advent of the service ethos, and are presently "out of sync" with each other in preparing for a reorientation from manufacturing to service (p. 151). Our schools must begin to train people who can look at issues and problems in a multi-faceted way, as well as in a linear way.

Espenshade, Thomas, 1987. Quoted in Shapiro and Walsh, "The Great Jobs Mismatch." U.S. News and World Report, 103:10:42-43 (September 7, 1987).

Fidelcor, 1987. Regional Economic Trends: Summer 1987. [Philadelphia: Fidelcor.]

This concise economic study of the Delaware Valley region points to one main trend: a regional labor shortage is emerging. The way to ease this labor constraint is clear to the authors: (1) expand and improve the quality of the labor pool, and (2) eliminate mismatches of skill and geography.

Fuller, Theodore E. and Gillis, William R., 1986. Road to Renaissance: Growth Industries for Pennsylvania. University Park, Pennsylvania: The Pennsylvania State University, Department of Agricultural Economics and Rural Sociology.

This report ranks major manufacturing and non-manufacturing industries as growing or declining based on their recent employment records in the nation. The report notes that Pennsylvania has continued to lag behind the national average. It mentions that between 1979 and 1985, nearly two-thirds of Pennsylvania's 67 counties suffered a net loss of jobs - a decline characterized by an unprecedented number of idle and rusting manufacturing plants across the Commonwealth. The report develops the premise that growing businesses and industries offer the greatest potential for growth in Pennsylvania and thus should receive special consideration in business recruitment and retention efforts. Declining businesses and industries, on the other hand, may require special attention to prevent further job loss in the state.

Gardner, David P., 1986. "The Challenge of School Reform Over the Next Decade." State Government, 59:4.

This piece focuses on five "unfinished" items on the agenda of school reform: (1) renew emphasis on an essential core curriculum to foster intellectual competence; (2) strengthen the teaching profession; (3) raise expectations of student performance; (4) develop ways to monitor and evaluate what has been accomplished; and (5) increase the federal role in achieving educational excellence (e.g. NSF's summer science institutes and the Model Teacher Program).

Ginzberg, Eli, ed., 1976. Jobs for Americans. Englewood Cliffs, New Jersey: Prentice-Hall.

This book assesses whether or not full employment is actually a worthy goal, and, if so, contemplates the problems faced in finding jobs for more people, the costs of doing so, and difficulties encountered in influencing the changes necessary among both institutions and individuals.

Gottfredson, Gary, Holland, John, and Ogawa, Deborah Kamiko, 1982. Dictionary of Holland Occupational Codes. Palo Alto, California: Consulting Psychologist Press, Inc.

This volume translates the Dictionary of Occupational Titles (DOT) into the Holland Occupational Classification System. The classification uses six main groups to classify occupations: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. These main groups are used to form 88 three-letter sub-groups that can be used in assessing the degree of congruence between a person's interests or preferences and any number of occupations. A Alphabetical Index lists occupations in alphabetical order to make it easier to find the Holland Code.

Hershberg, Theodore, and Rubin, Michael S., 1986. Human Resource Development for Advanced Technology: A Performance-Based Strategy. Philadelphia: Advanced Technology Center of Southeastern Pennsylvania.

This interim report suggests that the technology industries per se will not grow appreciably in the next decade, but technologically-based jobs in other industries will increase enormously, especially in office operations and precision-assembly manufacturing.

Hornbeck, David W., 1986. "Education in the Year 2000: Toward a Productive Work Force and Citizenry." State Government, 59:4.

This journal article reviews the rhetoric of educational reform, and predicts that, if we do not harness technology to enhance instruction, we stand little chance of providing the kind of education needed for future employment. Not only must the minds of our gifted and talented youth be stretched by exposure to the new information technologies, but the illiterate and semi-literate among us should learn reading and writing by using the new technologies.

Hoyt, Kenneth B., 1987. "Transition from School to Work in the U.S.A." (Paper prepared for presentation at the International Association for Vocational and Educational Guidance. Annecy, France, September 24, 1987.)

This address explores the differences in transition from school to work today and in the year 2000, and concludes that higher levels of education will be required for job success. "Unless drastic educational reform takes place," Hoyt warns, "America runs the risk of creating a permanent sub-class of underemployed, unemployed, and unemployable persons" (p. 6).

Kolberg, William H., ed., 1983. The Dislocated Worker: Preparing America's Work Force for New Jobs. Washington, D.C.: National Alliance of Business.

This monograph presents the plight of dislocated workers, generally males, 40 or older, union members, high school graduates, heads of households, and laid off. The more serious concern lies in the fact that dislocated workers are unlikely to return to their previous occupations either because their skills have become obsolete, or

their industry has undergone structural change. This editor has assembled articles that bear on retraining dislocated workers for the different work of an emerging service and information society, including factory work that involves information processing. Running through this collection is a thread of hope offered by the promise inherent in the Job Training Partnership Act.

Naisbitt, John, 1984. Megatrends: Ten New Directions Transforming Our Lives. New York: Warner Books.

This book purports to be a primer for the 80s that outlines where our society's sophisticated technologies are taking us. Like other futurists, this author recognizes the shift from industrial production to service and information. Perhaps the most worrisome observation made regarding education is that the generation graduating from high school today is the first generation in American history to be less skilled than its parents (p. 25).

National Academy of Sciences, 1984. High Schools and the Changing Workplace: The Employers' View. Washington, D.C.: National Academy Press.

This report addresses the needs of high school graduates who do not go on to a four-year college. These needs are addressed from the perspective of the private businesses and public institutions that will employ them. The report defines the educational competencies that will be needed by the high school graduate for success in the workplace -- at the entry level and throughout a 45 to 50 year career in a constantly changing economic environment. The panel for this study represents employers from both the public and private sectors. The panel's objective is to identify, from the employer's perspective, the basic education needed for effective, upwardly mobile, lifelong participation in the American work force. The panel's basic findings are that: the continual evolution of work functions will require that workers master new knowledge and new skills throughout their working lives; the core competencies defined in this report can provide the basic understandings and skills needed to perform entry-level jobs and to continue the learning process; a positive attitude and sound work habits are of basic importance to worker success.

National Alliance of Business, 1983. The Employment/Economic Development Connection: New Tools, New Roles, New Directions. A Guidebook. Washington, D.C.: National Alliance of Business. (Working Draft)

This preliminary work seeks strategies for "forging public-private partnerships" (p. 3). It explores ways to create linkages between economic development and training activities, in response to the initiatives of the Job Training Partnership Act. This is a guidebook for communities that contemplate applying for technical assistance under the new Act. One part of the guide discusses new uses of available resources to promote linkages; another presents new

approaches to such economic development and employment issues as retaining businesses in the community and training local people with the skills for incoming businesses; and a third section outlines a step-by-step procedure for developing and implementing a linkage strategy in a community (including checklists of self-assessment questions).

National Alliance of Business, 1986. Youth: 2000. Washington, D.C.: National Alliance of Business.

This report of proceedings documents the thinking of 75 of the nation's prominent leaders in labor, education, and politics on the subjects of school responsibility, illiteracy, and cooperation between schools, families, and employers. There were no predetermined outcomes of this meeting, but the data examined and the discussion of them produced startling predictions: (1) the number of high school dropouts (now about a million a year) will increase; (2) 25% of ninth graders will not graduate from high school; (3) one out of eight 17-year-olds is functionally illiterate; (4) less than 1/3 of black males ages 16-19 are employed (1/4 have never been employed); and (5) 1/2 of all black females are pregnant by age 20 (and half of this group never finish school).

National Center for Research in Vocational Education, 1979. Occupational Adaptability: Perspectives on Tomorrow's Careers. Columbus, Ohio: The Ohio State University.

This publication reports the proceedings of a national symposium that examines, from several perspectives, the application and transferability of skills in preparing individuals for tomorrow's careers. This symposium is one of several efforts conducted by the National Center to gain a better understanding of the needs and abilities of individuals as they apply to a variety of life and work situations. The symposium took place in December 6, 1978 at the American Vocational Association's Annual Convention in Dallas, Texas. The presenters came from industry, business, education, and research. They focused on how training for adaptability can increase the use of human resources in the labor force and illustrated the logical and intuitive appeal of these notions.

National Center for Research in Vocational Education, 1980a. Adaptation to Work: An Exploration of Processes and Outcomes. Columbus, Ohio: The Ohio State University.

This is one of a series of reports developed by the National Center to aid researchers and educators in preparing today's youths and adults for careers likely to be characterized by change. It contains the results of an exploratory study of the processes and outcomes of adaptation to work. Adaptation, as a process, was studied by means of semistructured personal interviews that probed adaptation with respect to its organizational, performance, interpersonal,

responsibility, and affective aspects. In addition, other variables thought to be correlated with adaptation as an outcome were collected, including demographic, personality, cognitive style, and work adjustment variables.

National Center for Research in Vocational Education, 1980b. Business, Industry and Labor Input in Vocational Education Personnel Development. Second Edition. Columbus, Ohio: The Ohio State University.

This handbook is designed to enable staff development persons, departments, and agencies to use the various vehicles identified in the handbook to aid in the professional development of vocational educators. The educational vehicles included were selected because of their ability to involve business, industry and labor in the staff development process. A number of authors contributed to this handbook, which builds upon an earlier National Center project (1979) designed to improve vocational teacher education linkages with business, industry and labor. The rationale for the handbook is based on the notion that the intellectual and professional development of vocational educators is not only crucial to their morale, but also essential to the growth of skilled, motivated students who are capable of joining the work force as productive craftpersons.

National Center for Research in Vocational Education, 1987. "IRS Study Shows "Ohio Voc-Ed Students Earn More." Centergram, 22:8 (August 1987). Columbus, Ohio: The Ohio State University.

This newsletter presents a summary of an economic study conducted by Dr. Ismail Ghazalah of Ohio University in which we found that graduates of Ohio vocational education programs earn 21 percent more money 4 years after graduation than high school graduates without vocational training. Dr. Ghazalah used data from the Internal Revenue Service to complete his study. This economic study, supported by a $63,000 grant from the Job Training Partnership Act, shows that unemployment is as much as 66% less for vocational graduates than for those in the general work force who are the same age and have had the same number of years of schooling.

National Commission on Excellence in Education, 1983. A Nation At Risk: The Imperative for Educational Reform. Washington: Government Printing Office.

This finding is highly critical of the teaching profession at all levels. It is perhaps the one prime source for the "back-to-basics" approach to educational reform in the 1980s.

O'Neill, Hugh, 1985. Creating Opportunity: Reducing Poverty Through Economic Development. Washington, D.C.: Council of State Planning Agencies.

This book points out that the economic recovery of the 80s is not being enjoyed in such places as Lackawanna, where the steel mills

have shut down, or in the dozens of one-industry towns in the heartland of America, or in the bleak welfare hotels in New York City. The author presents three reasons why the states should take on the responsibility for reducing poverty: (1) poverty imposes significant direct costs on state governments, such as public assistance and special educational services; (2) poverty imposes indirect costs on state governments by virtue of the social disruption (crime) associated with it; and (3) poverty represents an enormous waste of productive capacity in an era when human resources will be a critical determinant of economic development.

O'Toole, Peter, 1981. Making America Work. New York: Continuum Publishing Company.

This work proceeds from the premise that our nation's economic woes are rooted in the rapidly changing values and culture of our people. America, this author observes, is clearly not working as well as it once did, but changes in economic policy do little more than provide symptomatic relief. What is needed is a new philosophy of organization and work that is responsive to underlying shifts in America's social values and expectations. O'Toole indicates, with case examples, a myriad of ways productivity can be increased by increasing the responsibility of both workers and their managers. He is hard on education that places too much emphasis on relevance to work -- a gimmick, he feels, for attracting student interest without having to become interested in students. "In great and growing numbers, educators are convinced that if they can just set this line [job relevancy] to a catchy tune, consumers will again beat a path to their doors" (p. 172).

Pelligrino, James P., 1987. "Literacy and Quality of Education in the Technical Classroom." (Unpublished Paper). Pittsburgh, Pennsylvania: University of Pittsburgh Vocational Education Program Division.

This paper focuses on the continued need for literacy skills in a rapidly changing technological society. The paper states that schools must address the reading needs of 70% of the secondary populations currently enrolled in vocational technical training programs. The author states that his own survey of students indicated that they enter vocational-technical programs at an average reading level of 6.5, far below the reading level needed to understand job-related technical manuals. He cites the texts of various handbooks/manuals to support the latter point. The author makes a number of suggestions for improving the literacy-vocational-technical dilemma, some of which include: the formation of joint academic/vocational task forces; developing a matrix with the skills needed for each vocational program; continued curriculum development; identifying the reading skills and performance objectives needed for each job cluster area; offering in-service programs for vocational-technical teachers which emphasize the need for including reading as an integral part of the vocational technical experience, etc.

Pennsylvania Council on Vocational Education, 1982. Thirteenth Annual Evaluation Report. Harrisburg, Pennsylvania: Department of Education.

This Annual Report of the Pennsylvania Advisory Council on Vocational Education highlights several vocational education programs which it considers to be innovative, as well as good examples of cooperative arrangements between two or more vocational providers, or between a vocational education training facility and the private sector. Included in the Annual Report are such topics as: The Review of Local Program Evaluations; An Analysis of the Distribution of Federal Vocational Education Funds; An Evaluation of the Extent to Which Vocational Education Programs Are Meeting the Manpower Training Needs of the State; The Status of Local Advisory Councils; and A Review of the Work of the State Occupational Information Coordinating Committee (SOICC). The Advisory Council sent eight recommendations for adoption by the State Board of Education. The recommendations addressed these topics: Comprehensive State Plan for Vocational Education; Vocational Training Services for Adults; Post-secondary Vocational Education; Equipment; Vocational Education Professional Development; Information and Public Relations; Handicapped Students; and Guidance and Counseling.

Pennsylvania Council on Vocational Education, 1987a. Public Meetings on Vocational Education. Harrisburg, Pennsylvania: Department of Education.

This summary report includes comments on vocational education by 78 persons who attended one of the public meetings held in Harrisburg, Erie, Pittsburgh, Philadelphia, State College, and Nanticoke, Pennsylvania on February 11,1987. The meetings were attended by approximately 178 persons. Panels at the meetings included State Board and PACVE members, Pennsylvania Department of Education and PACVE staff, business and labor representatives, educators, and former PACVE members. A number of views were expressed by the participants, including: the need for a comprehensive state plan for vocational education in Pennsylvania; resolving the issues related to the accreditation of vocational education schools and regionalization planning; initiatives to diminish the dropout rate; eradicating the view that the AVTS' are the place for academically troubled students; restructuring the school day/year and promoting flexible scheduling; giving added attention to the content and quality of vocational education programs.

Pennsylvania Council on Vocational Education, 1987b. Evaluation of the Vocational Education System. Harrisburg, Pennsylvania.

This document reviews programs assisted with federal vocational education funds. The Pennsylvania Council on Vocational Education (PACVE) is required to evaluate the vocational education program delivery systems assisted under the Carl D. Perkins Vocational Education Act and under the Job Training Partnership Act (JTPA) at least once every two years. To comply with this mandate, vocational

education activities were reviewed by PACVE as well as the coordination between vocational education and JTPA. Based on its evaluation, PACVE made 17 recommendations related to the following eight objectives: Expand and improve vocational education; assure access to vocational education; promote cooperation between public agencies and the private sector; improve the academic foundations of vocational education and aid in the application of newer technologies; provide vocational education services to train, retrain, and upgrade employed and unemployed workers; assist the most economically depressed areas; utilize supportive services, special programs, and guidance counseling and placement; and improve the effectiveness of consumer and homemaking education and reduce the effects of sex-role stereotyping.

Pennsylvania Council on Vocational Education, 1987c. 1987 Recommendations. Harrisburg, Pennsylvania: Council on Vocational Education.

This slate of five recommendations can be summarized as follows: (1) train or retrain adults; (2) regionalize and standardize programs; (3) teach academic basics; (4) appropriate state funds to match federal incentives; and (5) initiate dropout prevention activities.

Pennsylvania Department of Education, 1983. Bureau of Vocational Education. A Vocational Education Needs Assessment for Pennsylvania: A Synthesis Document for the Development of a Comprehensive Plan for Vocational Education. Harrisburg, Pennsylvania: Department of Education.

This analysis of occupational and educational needs identifies the service industries as the fastest growing in the state. Perhaps its greatest contribution, however, is in introducing a prototype system for gathering and disseminating occupational information to curriculum developers, guidance counselors, educational planners, and job seekers. This comprehensive database, the Occupational Information System (OIS), has reached maturity since its date of inception, and has served as a primary source for this present assessment.

Pennsylvania Department of Education, 1984a. Executive Summary: 1976-1980 Career Follow Up of Secondary Vocational Completers in Pennsylvania. Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

This summary presents information on the educational and employment status of 1976-80 vocational program completers. To collect data 5092 vocational program completers were surveyed for the years 1976-80. The study; (1) assesses the educational and employment status of 1976 -80 secondary vocational completers; (2) compares completers from schools with high and low vocational placements; (3) compares completers employed "in" and "out of" their program of study and the unemployed; (4) compares completers by group classifications: disadvantaged, handicapped, minority, sex; and (5) compares completers in different vocational program fields of study.

Pennsylvania Department of Education, 1984b. Employers' Views of Vocational Education. Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

This study was designed to determine employers' opinions toward vocational education, their views on collaborating with vocational education, and their opinions on what vocational education programs should be offering/teaching. Over 3,000 employers in Pennsylvania were surveyed to acquire the study's data. Survey data are intended to help vocational education personnel in their effort to provide effective, efficient and relevant vocational education programs in the Commonwealth. The study's major recommendations were: to increase initiatives to obtain additional funds to improve vocational education; to increase collaboration between vocational education and the business and industrial sectors; to increase the communication and articulation activities between vocational education and Chapter 5 Regulations; and to increase the communication and articulation activities between post-secondary vocational training programs and adult basic education programs.

Pennsylvania Department of Education, 1984-86. Vocational Education Management Information Systems (VEMIS). Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education. DATABASE.

-"Follow-Up of Completers of Secondary Programs, 1984-85" -"Follow-Up of Completers of Postsecondary Programs, 1984-85" -"Follow-Up of Completers of Adult Programs, 1984-85" -"Enrollments and Completers in Secondary Programs, Volume I, 1985-86" -"Enrollments and Completers in Secondary Programs, Volume II, 85-86" -"Enrollments and Completers in Postsecondary Programs, 1985-86" -"Adult Program Enrollments and Completers in Secondary Schools, 85-86"

The data in the above publications reflect figures related to vocational education enrollments in Pennsylvania and other selected topics. The specific purpose of each of these publications is to serve as a single reference source which lists schools in Pennsylvania that offer vocational education programs. The publications are useful as regionalized reference sources for program offerings and local program planning, as well as for counseling and guidance purposes and educational research. Summary tables are included which present enrollment data in terms of program type, sex, and race.

Pennsylvania Department of Education, 1985a. The Pennsylvania State Plan for Adult Education - FY 1986-1988. Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

The purpose of this plan is to provide direction for the continued improvement of adult education in Pennsylvania, and to meet the purpose of adult education as stated in the Adult Education Act of

1978 and the 1984 Amendments to that Act. The specific objectives of the plan are to expand educational opportunities for adults, and to encourage the establishment of adult education programs that will: (1) enable all adults to acquire the basic literacy skills necessary to function in society; (2) enable students to continue their education to at least the level of secondary school completion; and (3) make available to adults the means to secure training and education that will enable them to become more employable, productive and responsible citizens. Topics addressed in the plan are: Pennsylvania's Adult Basic Education Needs; Pennsylvania's Resources to Meet Adult Basic Education Needs; Evaluation of the 1983-85 State Plan for Adult Education; Philosophy and Goals of Adult Education 1986-88; Implementation of Adult Education Programs in Pennsylvania; and The Participatory Planning Process.

Pennsylvania Department of Education, 1985b. Comprehensive State Plan for Vocational Education: 1986-88. Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

This plan is designed to give direction toward the management of a state program for vocational education in Pennsylvania. It refers to state priorities and program needs, and the resources to meet identified needs. The plan addresses the following: The Commonwealth's workforce and training needs; the clients who are accessing training programs; employer demands of prospective employees; and an assessment of training programs. Part A of this plan briefly describes the Pennsylvania workforce, summarizes current training issues as they relate to vocational education, and concludes with management directives. Part B of the plan addresses management directives as they apply to specific administrative and programmatic activities.

Pennsylvania Department of Education, 1986a. Labor Market Area Report. Harrisburg, Pennsylvania: Division of Data Services.

This report includes public school supply data for the Philadelphia LMA (Labor Market Area) for 1984-85, and follow-up results for 1983-84. The purpose of the report is to provide persons responsible for planning local vocational programs with data on potential supply generated by secondary, adult and post-secondary program offerings within each specific LMA. These data are to be used with current and anticipated demand for a quantitative estimate of the need to plan changes in local vocational offerings. The contents of this report are summarized under the following sections: Section I: School Listing; Section II: Labor Market Areas in Pennsylvania; Section III: Program Enrollments and Completers Report; Section IV: Program Enrollments and Completers Directory; Section V: Follow-up of Completers Report; and Section VI: Follow-up of Completers Directory.

Pennsylvania Department of Education, 1986b. Regionalization of the Pennsylvania Vocational Education Delivery System, Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

This report assesses the adequacy of the present delivery system for vocational education programs and services in Pennsylvania. Based on the committee's analysis of data, the committee concluded that: planning for vocational education occurs more on an individual school basis than on a comprehensive region-wide basis; the existing system for planning and delivering vocational education results in unnecessary duplication of effort, resources and services; the relationships between schools providing vocational education and business-labor-industrial sectors is confined mostly to advisory committees, not the joint, substantive training of workers; vocational education programs are largely based on student interests and teacher availability and not labor market demands; and that the present vocational education system does not adequately address needed changes brought about by a rapidly changing technological society.

Pennsylvania Department of Education, 1986c. Report to the Bureau of Vocational and Adult Education Staff. Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

This report was presented by the director of the Bureau of Vocational and Adult Education to the Bureau staff. It includes three section: an Bureau Vocational Update; a State Vocational Update; and a National Vocational Update. The Bureau Vocational Update identifies significant events having potential policy implications for vocational education. It also refers to activities likely to bring high visibility to vocational education. The state vocational update presents such topics as: the FY 1987 vocational education funding level status; the articulation of secondary/ post-secondary programs in Pennsylvania; and the Keystone skills Certification Program. The National Vocational Update presents information on such themes as: the 1986-87 National Alliance of Business Center for Vocational Education - Business Cooperation Workplan; new challenges in the workplace; and the need for better monitoring of vocational goals.

Pennsylvania Department of Education, 1986d. Guidelines for Submission of Applications for Vocational Education Funds (July 1, 1987-June 30, 1988). Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

These guidelines present the procedures to be followed in applying for: (1) vocational education funds under the Perkins Vocational Education Act of 1984; (2) selected state funds for vocational education; and (3) a list of the contractual requirements for successful applications. Key elements of the guidelines include: the purpose of the Perkins Act; the state goals for vocational education in Pennsylvania; the federal vocational funds available during 1987-88; allocated and nonallocated funds; and funds for statewide purposes. The allocation of funds is geared toward financing the

following vocational education programs, services and activities: Programs for the Handicapped and Disadvantaged (Title II Part A) and adult, cooperative education and industrial arts programs in secondary schools (Title II, Part B).

Pennsylvania Department of Education, 1987a. Vocational Professional Personnel Preparation in Pennsylvania. Harrisburg, Pennsylvania: Bureau of Vocational Education.

This report describes a study to determine the effectiveness of professional development in the preparation of vocational teachers by the professional development centers at Temple University, the Pennsylvania State University, the University of Pittsburgh, and Indiana University of Pennsylvania. The study uses the perceptions of participants to ascertain effectiveness in the various activities for which professional development centers receive state and federal funds. A series of nine questions was used to elicit client responses. The report concludes with an extensive discussion of the findings followed by these five specific recommendations: (1) develop and implement alternative strategies for updating the teaching quality of vocational teachers; (2) off-campus offerings/instruction should be continued but with modifications; (3) the entire area of transitional services needs to be reviewed and appropriately addressed; (4) some form of financial assistance should be provided by industry to help individuals meet the minimum requirements for certification as a vocational teacher; and (5) the statewide placement center should be eliminated as a fundable component and the resources redirected to more viable vocational education endeavors.

Pennsylvania Department of Education, 1987b. Vocational Technical Education Programs: Annual Performance Report, 1985-86. Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

This report presents the first Annual Performance Report on vocational Educational Programs in Pennsylvania. The programs described in this report are administered under the Carl D. Perkins Vocational Education Act P.L. 98-524. This report is the first of three pertaining to Pennsylvania's Comprehensive State Plan for Vocational Education and Adult Education, which provides direction to managers and state staff. The intent of this report is twofold: first, to present a summary and review procedure that meets the specific requirements of the federal law (P.L. 98-524); and second, to be used (1) as a means of informing the citizens of Pennsylvania about the results and achievements of vocational education; and (2) as a mode of evaluating the success of the efforts of vocational educators in the quest of preparing people for the reality of work.

Pennsylvania Department of Education, 1987c. 1987 Follow-up Survey on Chapters 5 and 6: Impact on Area Vocational-Technical Schools and Selected School Districts. Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

The main purpose of this report is to provide data on the impact of Chapter 5 and 6 Regulations and Chapter 339 Standards on vocational education. Chapter 5 Regulations began in September, 1985; Chapter 6 Regulations, in September, 1986. The first students to graduate under Chapter 5 Regulations and Standards will graduate in 1988. Those who were under Chapter 6 Regulations and Standards will graduate in 1989. Seventy-three Area Vocational-Technical Schools and thirty-nine randomly selected school districts participated in this Study. Topics of the Study include: changes in enrollment patterns (1985-86 to 1986-87); changes in scheduling patterns; reasons given for increases and decreases in vocational education enrollments; new vocational and academic programs; problems encountered in implementing Chapters 5 and 6; and suggestions for improving the implementation of Chapters 5 and 6.

Pennsylvania Department of Education, 1987d. Report on the Pilot Project to Coordinate Regional Vocational Planning. Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

This report addresses the need for improved accountability, cost-effectiveness, standards, and evaluation in delivering vocational education programs and services in Pennsylvania. Spurred by the duplication of vocational education resources, and the unevenness of vocational education service delivery practices, PDE managers in the Bureau of Vocational and Adult Education set out to devise a strategy to accomplish improved coordination and meaningful collaboration among local education agencies. To address this need, a Bureau task force developed a Regional Education, Assessment, and Planning (REAP) strategy in January, 1986. Six Intermediate Units were selected to pilot the REAP strategy: Allegheny, IU 3; Riverview, IU 6; Central Susquehanna, IU 16; Capital Area, IU 15; Montgomery, IU 23; and Schuylkill, IU 29. Surveys in the pilot areas revealed the following: (1) general acceptance of the Regional Planning Unit (RPU) strategy; (2) broad acceptance of the representative form of governance; and (3) the need for refining the planning process. Following the survey results, the PDE Bureau task force recommended funding during 1987-88 to better evaluate the effectiveness of the RPU strategy.

Pennsylvania Department of Education, 1987e. Vocational Education Statistics (Series: 1981-1986). Harrisburg, Pennsylvania: Division of Data Services.

These reports, 1981-86, are a series of publications containing statistical summaries related to basic education, higher education, and vocational education in Pennsylvania. The data contained in these publications reflect statistics for each separate year as well as trends on a variety of selected topics. Included are such topics as: Vocational Education Enrollments by Level and Program Field; Secondary Vocational Education Enrollments by Type of Institution; Vocational Education Enrollments by Sex, Level and Program Field; Secondary Vocational Education Enrollments by Special Needs and

Program Field, etc. The reports are presented in aggregate enrollments with accompanying graphs and tables.

Pennsylvania Department of Education, 1987f. A Listing of Pennsylvania Public Schools Having Secondary Enrollments: 1986-87. Harrisburg, Pennsylvania: Bureau of Information Systems.

This listing contains 1986 fall secondary enrollments for all the public schools in Pennsylvania reporting secondary level pupils. This information was provided by school districts, area vocational technical schools, and intermediate units. Data are listed in county order by administrative unit, by school, and by grade. Column headings include: P.G. (post graduates); SEC (secondary); and UNGRADED ((full time non-graded programs). Types of schools are preceded by asterisks: one asterisk indicates an area vocational technical school; two asterisks, a middle school; three asterisks, a combined school offering instruction to both elementary and secondary level pupils; and four asterisks, a special state owned school for exceptional children.

Pennsylvania Department of Education and the Pennsylvania State University, 1984. Soliciting Industry's Opinions for Improving Vocational Education. Harrisburg, Pennsylvania: Bureau of Vocational and Adult Education.

The purpose of this study was to obtain information on employer's views toward vocational education. The study included a random sample of 111 employers from the Pittsburgh, Reading, Wilkes-Barre, Allentown-Bethlehem-Easton SMSA's. Four meetings, two-and -one-half hours in length, focused on addressing three fundamental questions: (1) What can vocational education do to improve the basic skills of students? (2) What can vocational education do to improve the technical job skills of students? and (3) What can vocational education do to improve the job attitudes of students? The findings reflect industry's willingness to collaborate - as a partner- in the development and improvement of vocational education.

Pennsylvania Department of Labor and Industry, 1981. Pennsylvania Vocational Preparation, Job Characteristics and Outlook. Harrisburg, Pennsylvania: Office of Employment Security.

This report was sponsored and funded by the Pennsylvania State Occupational Information Coordinating Committee (PASOICC). It provides information on preferred educational requirements for 1500 occupations, provides a means of matching personal characteristics or needs by occupational category and gives prospects for employment in those occupations. This report also presents a cross reference of various occupational coding systems which should enhance planning and communication between the various users of labor market information.

Pennsylvania Department of Labor and Industry, 1986a. Pennsylvania Annual Planning Information Report - Fiscal Year 1987. Harrisburg, Pennsylvania: Department of Labor.

The Annual Planning Information Report (APIR) is designed to provide basic statistical data and analyses to aid planners who are in need of socio-economic information, particularly as related to job development and training programs. The report includes information on employment and unemployment; wages and earnings of production workers in manufacturing; population demographics; job openings received by the Office of Employment Security; and occupational employment trends.

Pennsylvania Department of Labor and Industry, 1986b. Office of Employment Security. Annual Planning Information Report for Pennsylvania, Fiscal Year 1987. Harrisburg, Pennsylvania: Research and Statistics Division.

This statistical abstract is designed to provide data and analyses for planners in need of socio-economic information, "particularly as related to job development and training programs." It includes data on employment/unemployment, wages in manufacturing industries, population statistics, employment trends, and job openings.

Pennsylvania Department of Labor and Industry, 1987a. Pennsylvania Occupational Information System: Labor Demand-Supply Relationship Component. Harrisburg, Pennsylvania: Office of Employment Security.

This publication presents the demand-supply relationship component of the Pennsylvania Occupational Information System. The component consists of three major elements: (1) occupational demand; (2) occupational supply; and (3) occupational demand and supply relationships. Occupational demand indicates how many jobs are available. Occupational supply indicates how many workers are potentially available to fill these job openings. Demand-supply relationships form the basis for assessing the matching of specific occupations with groups (clusters) of instructional programs. In this publication, occupational demand information reflects the estimated 1980 and projected 1990 employment levels and the annual average job openings for approximately 1100 occupations. Institutional supply, on the other hand, is used to refer to completers of formal training programs (approximately 1000) in Pennsylvania for the school year 1984-85.

Pennsylvania Department of Labor and Industry, 1987b. Statewide and Major Labor Market Areas Industry Trends and Outlook for Non Agricultural Wage and Salary Workers for 1985 and Projected for 1995. Harrisburg, Pennsylvania: Office of Employment Security.

The main body of this report contains statewide and major labor market area estimates of non agricultural wage and salary employment for 190 industries for the year 1985 and projections to 1995. These

projections are based on historic industrial trends in Pennsylvania and the United States and on U.S. Department of Labor studies of labor force, inflation, productivity, and economic growth or gross national product (GNP). This report attempts to satisfy the need expressed by manpower and vocational education planners for both current and projected information on detailed industry employment. Each MLMA is described in terms of its geographical area and narrative is accompanied by appropriate charts, maps and tables.

Pennsylvania Department of Labor and Industry, 1987c. Research and Statistics Division. Pennsylvania Occupational Trends and Outlook for Total Civilian Employment: 1984 and Projected 1995. Harrisburg, Pennsylvania: Office of Employment Security.

This report is designed to meet the occupational needs of Pennsylvania Job Service staff, JTPA planners, community and industrial development planners, PIC's, labor groups, vocational educators, career counselors, state and local officials, and job seekers. This report is a part of a comprehensive Labor Market Information (LMI) System designed to provide a variety of information to a whole spectrum of data users. One of the basic elements of this system is the Occupational Employment Statistics (OES) program which is responsible for the collection, development, and publication of current and future occupational employment information. Data produced by the OES program is one of the primary components of Pennsylvania's Occupational Information System (OIS). Material in this report may be reproduced without prior permission.

Pennsylvania Department of Labor and Industry, 1987d. Office of Employment Security. Current Material Organizer for Labor Market Information. [Harrisburg: Department of Labor and Industry.] DATABASE.

This handbook provides three kinds of data: (1) data for allocating funds; (2) data for determining program eligibility; and (3) data for identifying occupations with the greatest job placement potential. It is designed to be continually updated.

Pennsylvania State Board for Vocational Education, 1986. Vocational Education - Philosophy and Beliefs. Harrisburg, Pennsylvania: Department of Education.

This document presents a summary of belief statements as they relate to: vocational education programs; planning and evaluation; fiscal management; and personnel development. The State Board for Vocational Education, in its desire to give leadership toward providing new directions for vocational education in Pennsylvania, appointed a Steering Committee to conduct this project on beliefs statements. The Steering Committee was organized into task forces which included members from vocational education, basic and higher education, and the business community. The task forces consisted of three groups: the Articulation Task Force; the Area Vocational-Technical Schools Task Force; and the Special Populations

Task Force. Each task force was chaired by a member of the State Board. The beliefs document was unanimously approved by the State Board for Vocational Education on July 10, 1986 with the request that it be distributed statewide for leaders to use in vocational education program development.

Pennsylvania State Board of Education, 1986. Master Plan for Higher Education. Harrisburg, Pennsylvania: Department of Education.

This plan attempts to describe the planning process involved in developing a Master Plan for Higher Education in Pennsylvania. Attention is given to those societal forces which affect higher education - demographic trends, economic factors, and labor market needs. The plan examines trends in light of their impact on higher education policy decisions at both the institutional and/or state levels. Included in the plan is the identification of issues which are largely the result of societal factors, namely: the role of post-secondary vocational-technical education; measuring outcomes in higher education; economic development ; meeting the challenge for new faculty; and the future of graduate study and research.

Pennsylvania State Job Training Council, 1987. Annual Report to the Governor: Program Year 1985. Harrisburg, Pennsylvania: Department of Labor and Industry.

This report documents the success of programs supported by funds appropriated through the Job Training Partnership Act. During 1985, more than 115,000 Pennsylvanians received training, of which 54,000 were economically disadvantaged. Of this group, nearly 40,000 were provided a work experience, and 21,500 actually obtained jobs. 7,400 individuals were removed from the welfare roles.

Pennsylvania State Occupational Information Coordinating Committee (PASOICC), 1981. Sources of Occupational Information in the Commonwealth of Pennsylvania. Harrisburg, Pennsylvania: Department of Labor and Industry.

This publication represents the Pennsylvania State Occupational Information Coordinating Committee's (PASOICC) attempt to establish an occupational information system in Pennsylvania. A main purpose of PASOICC is to promote coordination and collaboration between producers and users of occupational information, and to identify and eliminate duplication in occupational data efforts and to fill data gaps. This directory provides a reference to sources related to occupational information which are available to users. The occupational information included in this directory had been produced and disseminated by various agencies and organizations in the Commonwealth of Pennsylvania. This publication is directed toward use by job seekers, career planners, vocational educators, manpower training program planners, guidance and counseling personnel, high school and college students, job service personnel, and community planning groups.

Pennsylvania State University, 1983. Pennsylvania State Data Center. Pennsylvania School Districts: 1980 Census Data Summary. Middletown, Pennsylvania: Pennsylvania State Data Center.

The data represented in this report relate to questions of population, housing, social interaction, and the economy that might particularly interest school districts. Data is presented for all 67 counties and 505 school districts in a variety of tables and maps.

Pennsylvania State University, 1987. Pennsylvania State Data Center. Pennsylvania County Data Book: Each of the 67 Counties. Middletown, PA: Pennsylvania State Data Center.

The Pennsylvania County Data Books for each of the 67 counties in Pennsylvania provide information in four sections. They are (1) Physical Features and Facilities, (2) Demographics and Income, (3) Economic Profile and Employment, and (4) Quality of Life. Chapter IV of the needs assessment to which this annotated bibliography is attached relies heavily upon the individual County Data Books for information. Specific reference is made to County Business Patterns: Number of Establishments, Employment, and Wages and Salaries by SIC Code for each county and the state.

Pennsylvania State University, 1986. Pennsylvania State Data Center. Pennsylvania Population Projections: 1980-2000. Middletown, Pennsylvania: Pennsylvania State Data Center. DATABASE.

This report culminates the first phase of the development of the Pennsylvania Population Projections and Estimates System (PPPES). The report includes two volumes: Volume I - Pennsylvania Population Projections, 1980 to 2000; and Volume II - Pennsylvania Fertility, Mortality and Migration Working Papers. The major objective of PPPES is to provide the population information necessary to meet the needs of various decision-makers within the Commonwealth. The first phase of the report presents a set of county level age, sex and race-projections for use by state agencies, local governments and private businesses. The second phase is devoted to the enhancement of the Commonwealth's population estimates program.

Perelman, Lewis J., 1984. The Learning Enterprise: Adult Learning, Human Capital, and Economic Development. Washington, D.C.: Council of State Planning Agencies.

This work hypothesizes that economic security depends upon an individual's ability to adapt his or her knowledge and skills. Workers will need to develop flexibility in their approaches to their jobs. This need for adaptive workers will affect the adult work force, especially, and will create an unprecedented requirement for

continual retraining. "The learning enterprise" about which the author speaks is an umbrella term for the combined functions of education, communication, and training. Information about education, communication, and training among adults, formal or informal, is at best sparse, but more often, nonexistent.

Public Law 98-524, 1984. "The Carl D. Perkins Vocational Act." (October 19, 1984). Washington, DC.: Superintendent of Documents.

The main purpose of this Act is: to assist the states to expand, improve, modernize and develop quality vocational education programs in order to meet the Nation's needs for marketable skills in the existing and future workforce; and to improve productivity and promote economic growth. The Act addresses such factors as: vocational education program accessibility; cooperation between public agencies and the private sector; improvement of the academic foundations of vocational students; upgrading the skills of employed and unemployed workers; the better use of supportive services; and the improvement of the effectiveness of consumer and homemaking education.

Rist, Ray C., 1981. Earning and Learning: Youth Employment Policies and Programs. Beverly Hills, California: Sage Publications.

This book acknowledges the "tortuous road" many young people travel in making the transition from full-time school to full-time work, and identifies reasons for frustration, among them the amount of extended education required by our society, the separation between classroom and workplace, and the failure to provide basic skills to many graduates and dropouts. The author suggests four strategies for alleviating the uncertainty of the transition: (1) academic credit for work experiences; (2) expanded private sector involvement in training; (3) career awareness programs; and (4) job creation through youth-operated projects.

SRI International, 1985. Investing in People: New Directions in Developing Human Capital to Meet the Needs of a Dynamic Economy. Menlo Park, California: SRI International.

This symposium addresses the question of appropriateness of present-day vocational education to the actual needs of the workplace. The concept of channeling federal and state funds into new programs that teach flexibility of attitudes and competencies in communications and computational skills is introduced.

Shapiro, Robert J. and Walsh, Maureen, 1987. "The Great Jobs Mismatch." U.S. News and World Report, 103:10:42-43 (September 7, 1987).

These authors predict a growing economic inequality between those who lack specialized skills and those who have obtained their

"sheepskins." All of the good jobs will be related to law, medicine, and computer science. The vanishing jobs will be related to industry, clerical work, and farming.

State Policy Data Book, 1987. McConnellsburg, Pennsylvania: Brizius & Foster. DATABASE.

This source of data is designed to be an up-to-date statistical tool for anyone who works with the policies of state governments, either in administering them or in analyzing them. Statistical tables are comparative state-by-state in a ranking format. Individual state figures are easily extracted from 15 different sections, many of which provide data for labor and education studies. Section A, for example, entitled "Demographics," contains figures not only on state populations, but on migrations, racial mixes, rural and urban balances, vital statistics, and mass communication facilities. Sections B and H, "Economics" and "Welfare & Social Services" are equally detailed. Especially useful in developing educational needs assessments is Section G, which presents such information as state and local spending for education at all levels, student performance on standardized tests, teachers' salaries, and graduation rates.

Summers, Anita A. and Luce, Thomas F., 1985. Economic Report on the Philadelphia Metropolitan Area - 1985. Philadelphia, Pennsylvania: The University of Pennsylvania Press.

This is the first report of a planned series of reports which concentrates on the identification of the region's major industrial strengths and assesses the factors that contribute to or hinder the Philadelphia region's economic growth. The report describes the broad sweep of economic developments, identifies the relatively competitive industries, addresses the strengths and weaknesses in the economic climate of the region, gives a summary assessment, provides some comparative SMSA data, and provides the basic economic data for the Philadelphia SMSA. In addition, the report describes the overall economic trends in the Philadelphia region from 1952 to the present. The Appendixes contain the procedural techniques employed, as well as much of the data underlying the tables in the report. A detailed bibliography of the statistical and general sources used is also provided.

Summers, Anita A. and Luce, Thomas F., 1987. Economic Development Within the Philadelphia Metropolitan Area. Philadelphia, Pennsylvania: The University of Pennsylvania Press.

This edition updates the authors' earlier work, particularly in their predictions of smaller center cities and larger concentrations of people outside cities (as well as jobs outside cities). Such a transformation has created new interdependencies between the city and its surrounding counties. The counties have access to "more revenue and more growth potential" (p. 146), so they are the gainers in the

relationship. It, therefore, becomes encumbent upon the counties to recognize "the extent to which their economic well-being flows from being part of a metropolitan area" (p. 147).

Swyt, Dennis A., 1986. The Technologies of the Third Era of the U.S. Workforce. (Report to the National Academy of Science's Panel on Technology and Employment. Washington, D.C. August 1986.)

This paper discusses the emerging and developing technologies most likely to affect work in the U.S. during the next two decades, namely, the family of information technologies. These technologies are the ones that involve the devices, machines, and systems that generate, transmit, manipulate, and control information represented by means of the binary principles upon which computers operate. Such technologies are the bases for intelligent machines that will assist in factories, offices, and service work.

Swyt, Dennis A., 1987. "An Agenda for Progress in Technology Education: A Personal View." (Address to the Plenary Session, National Convention of Technology Educators. Tulsa, Oklahoma. March 24, 1987.)

This speech acknowledges that our nation is entering an era in which "knowledge is a strategic resource, technical professionals are strategic workers, and education - as the conveyer of knowledge -is a strategic industry" (p. [9]). The speaker concludes with the opinion that technology must become a greater subject of education and a greater tool of education.

Toffler, Alvin, 1980. The Third Wave. New York: Bantam Books.

This best-seller proposes a theory of economic evolution beginning with an aboriginal hunting-gathering society, which was overcome by the "first wave" of a settled agricultural society, which in turn was overcome by the "second wave" of an industrial society, which is now in the process of being overcome by an information society-the third wave. It is a sweeping synthesis that places our times in context.

U.S. Bureau of Economic Analysis, 1985. Survey of Business, July issues. Cited as sources by the U.S. Department of Commerce, 1985 (see below).

U.S. Department of Commerce, 1984. Reported in U.S. News and World Report, 96:11:40-52 (March 19, 1984) [see below].

U.S. Department of Commerce, 1985. Bureau of the Census. Statistical Abstract of the United States: 1986. Washington: Government Printing Office.

This annual compilation of national statistics includes selections from many statistical publications, both government and private

(listed in Appendix IV). There is no more comprehensive nor more reliable source than this.

U.S. Department of Education, 1984. The Nation Responds: Recent Efforts to Improve Education. Washington, D.C.: Government Printing Office.

This report supercedes its predecessor, "Meeting the Challenge." It provides an overview of new developments in education during 1984 (state by state), and singles out a number of the most significant innovations among local school districts in the nation.

U.S. Department of Education, 1987. Center for Education Statistics. Trends in Adult Education: 1969-1984. Washington, D.C.: Superintendent of Documents.

This report highlights the trends in adult education for the period 1969-1984. National statistics refer to the number of adult education participants, the level of adult education activity, the purposes of adult education, the providers of adult education, and the financing of adult education. The source of the data is the "Survey of Adult Education" that was conducted triennially between 1969 and 1984 by the Census Bureau for the Center for Education Statistics. The surveys were conducted through interviews involving a national sample of approximately 60,000 households. Overall trends are portrayed through the use of graphs and detailed tables. Adult education activities range from credit and non-credit courses to employer training and private instruction or lessons.

U.S. Department of Labor, 1980a. Bureau of Labor Statistics. People and Jobs: A Chartbook of Labor Force, Employment, and Occupational Projections. Regional Report 43. Washington, D.C.: Superintendent of Documents, May, 1980.

This report incorporates the latest available data and projections on the outlook of the labor force, employment, and occupational prospects in the years ahead for the nation as a whole and especially for the states of Pennsylvania, Maryland, Delaware, Virginia, and West Virginia. The primary source of data for this report came from the U.S. Bureau of Labor Statistics, the U.S. Bureau of the Census and the five regional states mentioned above. Charts, in graphic form, are utilized to assist the user in analyzing labor force, employment and occupational projections data.

U.S. Department of Labor, 1980b. Perspectives on Working Women: A Databook, October, 1980. Quoted in Work Life, 1981, pp. 27-44 (see below).

U.S. News and World Report, 1984. "Ten Forces Reshaping America." Special Report. U.S. News and World Report, 96:11:40-52 (March 19, 1984).

This summary analysis of changes in family life, health, education, and national power, points at the following 10 variables: (1) a

"maturing" society; (2) the lure of the sun belt; (3) the computer revolution; (4) foreign competition; (5) women on the move; (6) the rise of minorities; (7) declining superpowers; (8) government under fire; (9) the education boom; and (10) medical miracles. The editor concludes that our nation's proven ability to adapt will keep Americans from becoming paralyzed by the even greater technical revolution that lies ahead.

Vaughan, Roger J., Pollard, Robert, and Dyer, Barbara, 1984. The Wealth of State: Policies for a Dynamic Economy. Washington, D.C.: CSPA.

This analysis of public policy takes the perspective of a potential entrepreneur. The main message of the book is that state development policy must rid itself of the barriers posed by obsolete regulations and uncompetitive financial institutions. Otherwise, the entrepreneur is discouraged from developing enterprises that create a growing share of new jobs and innovations. Turning to large corporations, the authors feel that for them to remain competitive, they need a well-educated labor force and an adaptable local education and training system.

Wetzel, James R., 1987. American Youth: A Statistical Snapshot. Washington, D.C.: The William T. Grant Foundation.

This is a glimpse at the status of our nation's young people, ages 16-24. One of the central questions of the study is, "How many are finishing school, finding jobs, and building families of their own?" (i). Perhaps the most unnerving finding of this report is that a substantial minority of American youth are struggling under the burdens of poverty, unemployment, school failure, underachievement, and premature parenthood.

Work Life in the 1980s, 1981. Editorial Research Reports. Washington, D.C.: Congressional Quarterly, Inc.

This of research addresses a variety of questions related to the computer age, the fight for equal pay, workers' changing expectations, the frailty of retirement income systems, employee education, stress management, women in decision-making positions, and the unemployment compensation program. Perhaps the most pertinent section for assessments of training programs is the chapter on employee retraining, which cites good examples of effective programs in the business sector that might serve as models for education. The program at Xerox Corporation proceeds from the assumption that "retraining is not an option: it is a necessity," according to James Donahue, Director of the Xerox International Training and Management Development Center in Leesburg, Virginia. "For every job at Xerox," he continues, "there is a training program. After you are hired from a technical school [for example], you are sent to Leesburg to take the basic course in fixing Xerox machines."

Yancey, Matt, 1987. "Jobless Rate Declines to 8-Year Low." Philadelphia Inquirer, 317:95b:1A, 10A (October 3, 1987).

This brief news item reports a nationwide drop in civilian unemployment rates, and focuses on resulting labor shortages in Pennsylvania and New Jersey. Steel and machinery industries led in factory employment during September 1987, and gains were widespread among all manufacturing, except automobiles.

APPENDIX B: DEFINITION OF TERMS

Special terminology, other than those provided in the data bases, are defined as necessary in the text. Five data bases (Collections of data organized especially for rapid search and retrieval) were used in the assessment. Appendix B is a description of each data base and definitions used therein as they relate to the assessment.

1. Pennsylvania Department of Education Vocational Education Management Information System (VEMIS).

Data are shown in the form of volumes regarding secondary, adult, and postsecondary vocational education. Specialized terms contained therein as they relate to the assessment report are shown below.

a. Secondary Schools

CIP CODE - Six digit Classification of Instructional Programs code assigned by the United States Department of Education used to identify listed programs.

DISADVANTAGED - A student who is either economically or academically disadvantaged for reason other than handicapped.

Economically disadvantaged refers to any of the following: (a) family income is at or below national poverty level, or (b) participant or parent(s) or guardian of the participant is unemployed, or (c) participant or parents(s) or guardian of the participant is institutionalized or under State guardianship.

Academically disadvantaged refers to a person who: (a) lacks reading and writing skills, or (b) lacks mathematical skills, or performs below grade level (d) is of limited English proficiency.

EMPLOYED RELATED TO TRAINING - The number of completers who responded as being employed in a field related to her/his vocational field of study.

EMPLOYED UNRELATED TO TRAINING - The number of completers who responded as being employed in a field unrelated to her/his vocational field of study and not currently attending school.

HANDICAPPED - A student who is evaluated as being deaf, deaf/blind, hard of hearing, mentally retarded, orthopedically impaired, seriously emotionally disturbed, specific learning disabled, speech impaired, visually handicapped, or other health impaired, who because of those impairments requires special education and related services.

LEP (Limited English Proficiency) - A student who is a member of a national-origin minority who does not speak and understand the English language in an instructional setting well enough to benefit from vocational studies to the same extent as a student whose primary language is English.

MILITARY SERVICE - The number of completers who responded as being in the military service full-time.

PURSUING ADDITIONAL EDUCATION - The number of completers who responded as currently attending school and not employed in a field related to her/his vocational field of study nor in the military service full-time.

TOTAL GAINFULLY PLACED - The number of completers in the following categories: "Employed Related to Training," "Employed Unrelated to Training," "Military Service," and "Pursuing Additional Education."

TOTAL RESPONSE - The number of completers who returned usable follow-up forms.

TOTAL SURVEYED - The number of completers who were sent follow-up forms.

UNEMPLOYED LOOKING - The number of completers who responded as being unemployed, currently seeking employment, and not currently attending school.

UNEMPLOYED NOT LOOKING - The number of completers who responded as being unemployed, not looking for work because of choice, illness, retirement, pregnancy, or other reasons, and not currently attending school.

b. Adult Programs

APPRENTICESHIP - A student enrolled in a registered or unregistered apprenticeship program involving on-the-job training and in-school instruction.

PREPARATORY - A student enrolled in a vocational program for new occupational preparation.

Long Term - A student enrolled in a program of at least 500 contact hours of lecture and laboratory class time.

Short Term - A student enrolled in a program of less than 500 contact hours of lecture and laboratory class time.

SUPPLEMENTAL - A student enrolled in a vocational program to update or upgrade her/himself to achieve stability or advancement in her/his occupational field.

c. Post-secondary Programs

ASSOCIATE DEGREE - Identifies those preparatory completers who received an associate degree upon completion.

2 YRS - Refers to program completers who received a certificate for a program for two years or more education.

1 < 2 - Refers to program completers who received a certificate for a program of one or more but less than two years duration.

<1 - Refers to program completers who received a certificate for a program of less than one year duration.

NONE - Refers to program completers who received no formal award upon completion of the program.

2. Pennsylvania Department of Labor and Industry: Current Material Organizer for Labor Market Information.

Data are shown in the form of regularly updated materials in a handbook designed for JTPA Planners. The handbook was developed in cooperation with the Pennsylvania Occupational Information Coordinating Committee, Governor's Office of Policy and Development and the Bureau of Job Training Partnership, Department of Labor and Industry.

a. Targeted Service Group Definitions

ECONOMICALLY DISADVANTAGED PERSON - A member of a family that receives cash welfare payments or whose family annual income does not exceed the poverty level or exceed 70 percent of the lower living standard income, whichever is higher.

HANDICAPPED PERSON - A person with either a mental or physical work disability, between ages 16 and 64 whether they are working or not working.

HIGH SCHOOL DROPOUTS - Students who fall into 1 of 4 categories: left school after passing required attendance age; left after being issued a General Employment Certificate; left after being issued a Farm or Domestic Service Exemption Permit; left after being committed to a correctional institution.

TEENAGE MOTHERS - Mother under age of 20.

PERSONS RECEIVING CASH ASSISTANCE - Persons who receive monetary aide under AFDC, General Assistance, or the State Blind Program (SBP) which are operated through the Department of Public Welfare. The numbers which are listed in Table 11, AFDC recipients, are a subset of Table 10, persons receiving cash assistance.

LONG-TERM UNEMPLOYED - Persons unemployed 15 weeks and over.

UNEMPLOYED EXHAUSTEES - Persons who are unemployed and who have exhausted the unemployment insurance benefits to which they were entitled.

TOTAL PERSONS EXHAUSTING U.C.BENEFITS WHILE FULLY UNEMPLOYED (T 13) - The sum of all people who have exhausted benefits during the reference year and had no income during the final compensable week for which they received UC benefits.

AVERAGE MONTHLY UNEMPLOYED EXHAUSTEES (Table 14) - An average, by month, of all unemployed exhaustees. Total persons exhausting U.C. benefits (Table 13) does not equal 12 times the average monthly unemployed (Table 14) for several reasons; such as, exhaustees being counted in more than one month, and persons being counted who have exhausted benefits in prior years and who are still unemployed in the reference year.

3. Pennsylvania Micro-Occupational Information System

Developed by the Pennsylvania Occupational Information Coordinating Committee, the data base is accessed by microcomputer.

a. Terminology Needed to Use MICRO-OIS

OCCUPATIONAL DEMAND - An estimate of the number of available jobs, by occupation. Expressed as "annual average openings."

INSTITUTIONAL SUPPLY - Indicates the number of persons who have completed training in specific instructional programs.

EMPLOYMENT - The number of workers in an occupation. The OIS provides 1980 employment and projected 1990 employment for more than 1100 occupations in Pennsylvania.

SUBSET - Term used to describe clusters of related training programs and occupations. A directory of subset titles and codes is contained in Section V.

SET - A group of one or more related subsets, each of which contains training programs and matching occupations. I Set numbers and titles correspond to the Classification of Instructional Programs (CIP) taxonomy developed by the National Center for Education Statistics (NCES). A directory of set titles and definitions is contained in Section V.

CIP - A six-digit "Classification of Instructional Programs" coding system developed by NCES to classify and code training programs. A directory of CIP codes is contained in Section V.

SOC - A four-digit "Standard Occupational Classification" coding system established by the U.S. Department of Commerce to identify and classify occupations. A directory of SOC codes is contained in Section V.

ANNUAL AVERAGE OPENINGS - The estimated average number of annual job openings in an occupation resulting from industrial growth and from replacement of workers who leave the labor force due to death, retirement, or withdrawal for other reasons.

TRAINING INSTITUTIONS - Refers to the seven types of training providers included in the Pennsylvania OIS

- secondary schools providing vocational training
- secondary schools offering adult training
- private trade and technical schools
- private business schools
- Job Training Partnership Act (JTPA)
- community colleges
- colleges and universities

COMPLETERS - The number of individuals who have fully completed the training requirements of a particular training program. These figures represent "institutional supply" in the OIS.

AVAILABLE - The number or percentage of completers of an instructional program who enter the workforce and are available for placement in an occupation. The number of completers available for placement in an occupation. The number of completers available excludes those who pursue additional education, enter the military, or who do not enter the labor force for other reasons. This figure is based upon survey data collected by the Pennsylvania Department of Education and the Bureau of Job Training Partnership.

PLACED - The number or percentage of available completers who are successful in finding employment. These figures are based upon the number of respondents from surveys of completers conducted by the Pennsylvania Department of Education and Bureau of Job Training Partnership.

4. Pennsylvania State University Data Center Population Projections

The data base is presented in two volumes and microcomputer diskette form. Information is in the form of projections, not forecasts, predictions or estimates.

PROJECTION - the measurement of the future population that would exist if the assumptions of the method prove to be empirically valid. Projections may assume continuations of past conditions, revisions based on present conditions, or trended changes in these conditions. Therefore, there are a number of possible projections for any given population.

5. State Policy Data Book 1987

Data are shown in a reference book and in an accompanying diskette. Information contained therein are in the form of comparative statistics developed from state and federal government sources. No specific definitions are used.

APPENDIX C: JTPA TARGETED SERVICE GROUPS

Part V

SDA TARGETED SERVICE GROUPS

This section provides data on the size of certain segments of the population whose special needs are targeted for SDA services. Among these special target populations are veterans, the economically disadvantaged, youth, persons on public assistance, high school dropouts, teenage mothers, the handicapped, displaced homemakers, ex-offenders, alcoholics and addicts. All of these groups are made up of persons who frequently have employability problems stemming from lack of skills, physical or mental handicaps, or dependence on drugs or alcohol. These are the people who need special services in order to help them find and hold jobs fully commensurate with their abilities.

There is also a table providing detailed counts by county of the economically disadvantaged who are on public assistance, as well as a table giving the annual income poverty level criteria for the continental United States.

Note: This section, which includes tables 1-18, is excerpted entirely from the source shown below. Updates are included as of September 7, 1987.

Source: Commonwealth of Pennsylvania, Department of Labor and Industry, Current Material Organizer for Labor Market Information. (Harrisburg, PA), Part V, Tables 1-18.

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PART V - TARGETED SERVICE GROUP DEFINITIONS

ECONOMICALLY DISADVANTAGED PERSON - A member of a family that receives cash welfare payments or whose family annual income does not exceed the poverty level or exceed 70 percent of the lower living standard income, whichever is higher.

HANDICAPPED PERSON - A person with either a mental or physical work disability between ages 16 and 64 whether they are working or not working.

HIGH SCHOOL DROPOUTS - Students who fall into 1 of 4 categories: left school after passing required attendance age; left after being issued a General Employment Certificate; left after being issued a Farm or Domestic Service Exemption Permit; left after being committed to a correctional institution.

TEENAGE MOTHERS - Mother under age 20.

PERSONS RECEIVING CASH ASSISTANCE - Persons who receive monetary aide under AFDC, General Assistance, or the state blind program (SBP) which are operated through the Department of Public Welfare. The numbers which are listed in Table 11, AFDC recipients, are a subset of Table 10, persons receiving cash assistance.

LONG-TERM UNEMPLOYED - Persons unemployed 15 weeks and over.

UNEMPLOYED EXHAUSTEES - Persons who are unemployed and who have exhausted the unemployment insurance benefits to which they were entitled.

TOTAL PERSONS EXHAUSTING U.C. BENEFITS WHILE FULLY UNEMPLOYED (TABLE 13) - The sum of all people who have exhausted benefits during the reference year and had no income during the final compensable week for which they received UC benefits.

AVERAGE MONTHLY UNEMPLOYED EXHAUSTEES (TABLE 14) - An average by month of all unemployed exhaustees. Total persons exhausting U.C. benefits (Table 13) does not equal 12 times the average monthly unemployed (Table 14) for several reasons; such as, exhaustees being counted in more than one month, and persons being counted who have exhausted benefits in prior years and who are still unemployed in the reference year.

PART V SDA TARGETED SERVICE GROUPS

PROJECTED 1985 POPULATION FOR SELECTED AGE COHORTS

SERVICE DELIVERY AREA	14-15	16-19	20-21
PENNSYLVANIA	344572	737403	394476
SDA 01- Erie County	8446	19001	10192
SDA 02	14632	31963	16996
Clarion County	1190	3660	2443
Crawford County	2974	6133	3155
Forest County	152	300	127
Lawrence County	2960	6623	3535
Mercer County	3848	8476	4740
Venango County	1980	3965	1735
Warren County	1527	2807	1261
SDA 03- Pittsburgh City	9538	25621	17264
SDA 04- Balance of Allegheny County	28053	55747	27291
SDA 05- Beaver County	5795	12103	5982
SDA 06	9387	22429	13490
Armstrong County	2344	4897	2244
Butler County	4639	10045	5521
Indiana County	2403	7487	5725
SDA 07	17151	32370	15504
Fayette County	5046	9433	4492
Westmoreland County	12105	22937	11012
SDA 08	7736	15787	7944
Greene County	1407	2754	1237
Washington County	6329	13032	6707
SDA 09	7981	15493	6986
Cameron County	208	375	160
Clearfield County	2725	5353	2464
Elk County	1318	2389	1139
Jefferson County	1519	3112	1376
McKean County	1562	3060	1344
Potter County	649	1204	503
SDA 10	15163	31267	15211
Bedford County	1610	3021	1430
Blair County	4040	8458	3791
Cambria County	5175	11028	5651
Fulton County	487	832	366
Huntingdon County	1353	2998	1672
Somerset County	2497	4929	2300
SDA 11	8319	22425	18609
Centre County	2204	9311	11861
Clinton County	1098	2876	1735
Lycoming County	3445	7418	3702
Mifflin County	1572	2820	1311
SDA 12	7681	17757	10299
Columbia County	1668	4615	3063
Juniata County	611	1193	538
Montour County	483	1034	499
Northumberland County	2984	5678	2602
Snyder County	1075	2567	1529
Union County	859	2670	2067
SDA 13	6020	11914	5536
Bradford County	2277	4198	1905
Sullivan County	173	497	222
Susquehanna County	1294	2424	1051
Tioga County	1331	3053	1660
Wyoming County	945	1742	698
SDA 14- Lackawanna County	6007	13581	7441
SDA 15	5707	11290	5492
Carbon County	1608	3014	1425
Monroe County	2293	4982	2726
Pike County	614	1024	414
Wayne County	1192	2270	927
SDA 16	14086	28720	14153
Luzerne County	9557	20069	10128
Schuylkill County	4529	8651	4025
SDA 17- Philadelphia County	46253	99906	56893
SDA 18- Bucks County	16300	31925	15329
SDA 19- Montgomery County	18665	38621	19337
SDA 20- Delaware County	14766	33122	18091
SDA 21- Chester County	11265	23381	11773
SDA 22	13817	29997	16639
Lehigh County	7428	15799	8312
Northampton County	6390	14198	8327
SDA 23- Berks County	8819	18761	9793
SDA 24	16715	35507	18433
Cumberland County	5136	12381	7225
Dauphin County	6925	14049	6942
Lebanon County	3342	6735	3215
Perry County	1312	2343	1051
SDA 25- Lancaster County	10943	24780	13162
SDA 26- York County	9814	20055	9680
SDA 27	5750	12297	6231
Adams County	2151	4833	2748
Franklin County	3599	7464	3483

SOURCE: Pennsylvania Office of Employment Security

PART V-1
PENNSYLVANIA

PRELIMINARY

ESTIMATED 1985 ECONOMICALLY DISADVANTAGED INDIVIDUALS
(data in hundreds)

SERVICE DELIVERY AREA	TOTAL	16-21	22-54	55+
PENNSYLVANIA	2,208,900	295,400	769,600	389,300
SDA 01- Erie County	82,700	8,700	17,400	7,100
SDA 02	50,000	8,500	17,200	8,800
Clarion County	9,700	1,700	3,300	1,600
Crawford County	19,400	2,300	6,500	3,400
Forest County	1,200	100	400	300
Venango County	11,600	1,500	4,200	2,100
Warren County	8,100	900	2,700	1,400
SDA 03- Pittsburgh City	112,300	17,900	40,500	19,100
SDA 04- Balance of Allegheny County	123,400	13,000	44,000	24,500
SDA 05- Beaver County	37,500	4,300	13,200	7,100
SDA 06	51,000	11,400	20,300	10,900
Armstrong County	16,900	2,000	5,600	3,700
Butler County	21,600	3,200	7,700	3,600
Indiana County	22,600	6,200	7,000	3,600
SDA 07	113,000	12,600	38,100	23,500
Fayette County	49,100	5,500	15,500	10,400
Westmoreland County	63,900	7,100	22,600	13,100
SDA 08	62,100	8,600	17,600	10,300
Greene County	12,100	1,300	4,000	2,300
Washington County	40,100	4,300	13,700	8,000
SDA 09	50,700	5,300	18,400	10,600
Cameron County	1,600	100	500	300
Clearfield County	19,600	2,100	6,100	3,900
Elk County	5,400	600	1,800	1,100
Jefferson County	10,500	1,000	3,500	2,300
McKean County	8,600	1,000	3,000	2,100
Potter County	5,000	600	1,600	1,000
SDA 10	124,200	14,000	43,100	23,600
Bedford County	12,900	1,400	4,300	2,300
Blair County	32,600	4,000	10,600	6,200
Cambria County	42,500	4,600	15,600	8,700
Fulton County	3,500	400	1,300	600
Huntingdon County	10,900	1,400	3,700	1,800
Somerset County	21,800	2,300	7,800	4,300
SDA 11	69,100	17,200	24,100	8,400
Centre County	25,000	10,700	9,000	2,200
Clinton County	8,600	1,400	2,900	1,200
Lycoming County	24,400	3,700	8,500	3,400
Mifflin County	11,000	1,400	3,800	1,600
SDA 12	52,900	7,600	17,200	10,600
Columbia County	11,900	2,200	3,700	2,300
Juniata County	4,400	600	1,500	800
Montour County	2,500	300	900	600
Northumberland County	22,800	2,800	7,300	5,300
Snyder County	5,900	800	1,900	800
Union County	5,500	900	1,900	900

SERVICE DELIVERY AREA	TOTAL	16-21	22-54	55+
SDA 13	41,400	5,500	14,300	8,300
Bradford County	15,000	1,900	5,200	2,300
Sullivan County	1,700	500	500	300
Susquehanna County	8,900	1,000	3,100	1,500
Tioga County	10,500	1,500	3,600	1,800
Wyoming County	5,200	600	1,900	800
SDA 14- Lackawanna County	43,600	4,900	14,600	9,300
SDA 15	32,900	3,700	11,500	6,800
Carbon County	10,200	1,100	3,500	2,200
Monroe County	11,400	1,400	4,300	2,100
Pike County	3,200	300	1,100	800
Wayne County	8,100	800	2,600	1,800
SDA 16	103,300	12,000	33,000	23,700
Luzerne County	70,400	9,400	22,600	15,800
Schuylkill County	32,800	3,500	10,400	7,800
SDA 17- Philadelphia Coun	521,700	68,700	190,600	75,600
SDA 18- Bucks County	47,100	6,800	15,300	9,400
SDA 19- Montgomery County	84,300	7,500	20,900	9,500
SDA 20- Delaware County	57,600	8,800	24,300	11,100
SDA 21- Chester County	33,100	5,300	12,200	4,700
SDA 22	69,900	9,200	23,600	13,800
Lehigh County	36,400	4,600	12,500	7,200
Northampton County	33,500	4,600	11,100	6,600
SDA 23- Berks County	45,400	6,100	14,700	9,000
SDA 24	78,500	10,400	27,200	14,000
Cumberland County	19,200	3,100	7,100	3,400
Dauphin County	37,900	5,000	12,700	6,800
Lebanon County	14,700	1,600	5,000	2,700
Perry County	6,800	700	2,400	1,100
SDA 25- Lancaster County	55,200	7,600	18,200	8,000
SDA 26- York County	43,500	6,000	14,800	9,000
SDA 27	27,800	3,300	9,400	5,800
Adams County	10,200	1,300	3,300	2,000
Franklin County	17,600	2,000	6,100	3,800
SDA 28	45,800	5,700	18,000	8,200
Lawrence County	22,000	2,800	7,600	3,900
Mercer County	23,800	2,900	8,500	4,200

NOTE: Economically disadvantaged individuals are counted every 10 years at the time of the decennial census - the most recent being the 1980 Census. Between the census counts, the number of economically disadvantaged fluctuates with the business cycle and, for economic planning purposes, it is important to provide estimates for the years between census counts. To meet this need, the economically disadvantaged have been projected to 1985 for the State and the 67 counties.

The estimates are projected from the 1980 Census counts based on public assistance figures from the Pennsylvania Department of Public Welfare, population and income figures from the U. S. Department of Commerce, income tax figures from the Pennsylvania Department of Revenue, unemployment and annual average wage figures from the Pennsylvania Department of Labor and Industry, and regional counts of persons with income below the poverty level supplied by the U. S. Department of Commerce.

Since the estimates are derived through these related data series rather than direct measurement, the estimates should be used cautiously and only as an indicator of relative significance of economically disadvantaged individuals in an area with respect to the State total. For many of the less populated counties, estimates of economically disadvantaged individuals are so small that extra caution should be used.

Data may not add to totals due to rounding to the nearest 100.

SOURCE: Research and Statistics Division, Pennsylvania Office of Employment Security, April 1987.

PART V SDA TARGETED SERVICE GROUPS

Economically Disadvantaged Youth Age 16-21
<125% of the Poverty Level - 1980 Census

COUNTIES	Male	Female	Total
Adams	415	483	898
Pittsburgh City	5,307	7,202	12,509
Bal of Allegheny	3,971	4,671	8,642
Armstrong	420	526	946
Beaver	1,020	1,174	2,194
Bedford	470	534	1,004
Berks	1,674	2,280	3,954
Blair	1,018	1,428	2,446
Bradford	667	727	1,394
Bucks	1,832	2,170	4,002
Butler	802	963	1,765
Cambria	1,129	1,286	2,415
Cameron	47	41	88
Carbon	273	343	616
Centre	3,494	3,655	7,149
Chester	1,651	2,317	3,968
Clarion	475	681	1,156
Clearfield	621	673	1,294
Clinton	329	425	754
Columbia	678	880	1,558
Crawford	644	842	1,486
Cumberland	946	1,161	2,107
Dauphin	1,526	2,011	3,537
Delaware	3,254	3,374	6,628
Elk	158	220	378
Erie	2,204	3,084	5,288
Fayette	1,618	1,770	3,388
Forest	32	14	46
Franklin	602	636	1,238
Fulton	109	137	246
Greene	306	394	700
Huntingdon	448	453	901
Indiana	1,269	2,329	3,598
Jefferson	270	336	606
Juniata	144	164	308
Lackawanna	1,533	1,576	3,109
Lancaster	2,258	2,946	5,204
Lawrence	565	1,017	1,582
Lebanon	447	540	987
Lehigh	1,106	1,787	2,893
Luzerne	2,362	2,798	5,160
Lycoming	1,053	1,102	2,155
McKean	288	409	697
Mercer	735	989	1,724
Mifflin	331	503	834
Monroe	386	534	920
Montgomery	2,207	3,045	5,252
Montour	96	113	209
Northampton	1,320	1,608	2,928
Northumberland	799	925	1,724
Perry	191	230	421
Philadelphia	24,319	29,272	53,591
Pike	98	105	203
Potter	180	193	373
Schuylkill	1,031	1,304	2,335
Snyder	314	387	701
Somerset	556	727	1,283
Sullivan	235	173	408
Susquehanna	304	330	634
Tioga	453	616	1,069
Union	256	310	566
Venango	383	505	888
Warren	203	353	556
Washington	1,064	1,527	2,591
Wayne	256	272	528
Westmoreland	1,817	2,427	4,244
Wyoming	208	224	432
York	1,533	2,204	3,737
PENNSYLVANIA	88,710	110,435	199,145

PART V SDA TARGETED SERVICE GROUPS

Physically or Mentally Handicapped Persons 16-64 With a Work Disability - 1980 Census

COUNTIES	Male	Female	Total
Adams	1,587	1,478	3,065
Pittsburgh City	12,989	14,777	27,766
Bal of Allegheny	25,466	23,530	48,996
Armstrong	2,717	2,275	4,992
Beaver	5,703	5,160	10,863
Bedford	1,475	1,263	2,738
Berks	7,100	6,955	14,055
Blair	4,252	3,670	7,922
Bradford	1,723	1,712	3,435
Bucks	10,668	9,559	20,227
Butler	3,975	3,525	7,500
Cambria	6,835	5,251	12,086
Cameron	244	141	385
Carbon	1,712	1,552	3,264
Centre	2,178	1,953	4,131
Chester	6,184	5,744	11,928
Clarion	1,235	1,007	2,242
Clearfield	2,819	2,581	5,400
Clinton	1,098	964	2,062
Columbia	1,779	1,652	3,431
Crawford	2,581	2,365	4,946
Cumberland	4,275	3,487	7,762
Dauphin	6,307	5,995	12,302
Delaware	12,783	11,806	24,589
Elk	974	861	1,835
Erie	7,450	7,272	14,722
Fayette	6,339	5,076	11,415
Forest	162	164	326
Franklin	2,995	2,679	5,674
Fulton	466	363	829
Greene	1,493	1,235	2,728
Huntingdon	1,458	1,124	2,582
Indiana	2,655	2,349	5,004
Jefferson	1,410	1,231	2,641
Juniata	567	397	964
Lackawanna	7,789	7,281	15,070
Lancaster	7,906	7,772	15,678
Lawrence	3,116	2,977	6,093
Lebanon	2,657	2,329	4,986
Lehigh	5,850	6,057	11,907
Luzerne	12,573	10,908	23,481
Lycoming	3,144	2,967	6,111
McKean	1,423	1,287	2,710
Mercer	3,448	3,250	6,698
Mifflin	1,576	1,330	2,906
Monroe	1,963	1,721	3,684
Montgomery	12,303	11,977	24,280
Montour	402	407	809
Northampton	5,339	5,313	10,652
Northumberland	3,433	3,224	6,657
Perry	1,117	929	2,046
Philadelphia	56,402	63,840	120,242
Pike	614	533	1,147
Potter	619	515	1,134
Schuylkill	6,236	5,256	11,492
Snyder	772	867	1,639
Somerset	2,956	2,596	5,552
Sullivan	218	148	366
Susquehanna	1,200	1,066	2,266
Tioga	1,254	1,058	2,312
Union	728	683	1,411
Venango	1,889	1,548	3,437
Warren	1,380	1,171	2,551
Washington	6,859	5,751	12,610
Wayne	1,091	904	1,995
Westmoreland	10,829	9,586	20,415
Wyoming	781	712	1,493
York	7,003	7,121	14,124
PENNSYLVANIA	328,524	314,237	642,761

PART V SDA TARGETED SERVICE GROUPS
HANDICAPPED AGED 16 TO 64 YEARS

SERVICE DELIVERY AREA	NUMBER OF HANDICAPPED
PENNSYLVANIA	642761
SDA 01- Erie County	14722
SDA 02	26293
Clarion County	2242
Crawford County	4946
Forest County	326
Lawrence County	6093
Mercer County	6698
Venango County	3437
Warren County	2551
SDA 03- Pittsburgh City	27780
SDA 04- Balance of Allegheny County	48982
SDA 05- Beaver County	10863
SDA 06	17496
Armstrong County	4992
Butler County	7500
Indiana County	5004
SDA 07	31830
Fayette County	11415
Westmoreland County	20415
SDA 08	15338
Greene County	2728
Washington County	12610
SDA 09	14105
Cameron County	385
Clearfield County	5400
Elk County	1835
Jefferson County	2641
McKean County	2710
Potter County	1134
SDA 10	31709
Bedford County	2738
Blair County	7922
Cambria County	12086
Fulton County	829
Huntingdon County	2582
Somerset County	5552
SDA 11	15210
Centre County	4131
Clinton County	2062
Lycoming County	6111
Mifflin County	2906

SERVICE DELIVERY AREA	NUMBER OF HANDICAPPED
SDA 12	149[illegible]
Columbia County	3431
Juniata County	964
Montour County	809
Northumberland County	6657
Snyder County	1639
Union County	1411
SDA 13	9872
Bradford County	3435
Sullivan County	366
Susquehanna County	2266
Tioga County	2312
Wyoming County	1493
SDA 14- Lackawanna County	15070
SDA 15	10090
Carbon County	3264
Monroe County	3684
Pike County	1147
Wayne County	1995
SDA 16	34973
Luzerne County	23481
Schuylkill County	114[illegible]
SDA 17- Philadelphia County	120242
SDA 18- Bucks County	20227
SDA 19- Montgomery County	24280
SDA 20- Delaware County	24589
SDA 21- Chester County	11928
SDA 22	22559
Lehigh County	11907
Northampton County	10652
SDA 23- Berks County	14055
SDA 24	27096
Cumberland County	7762
Dauphin County	12302
Lebanon County	4986
Perry County	2046
SDA 25- Lancaster County	15678
SDA 26- York County	14124
SDA 27	873[illegible]
Adams County	3065
Franklin County	5674

SOURCE: 1980 Census data from the U.S. Department of Commerce

PART V - 5

SCHOOL DROPOUTS
BY SDA AND COUNTY
SCHOOL YEAR 1984-85

SERVICE DELIVERY AREA	TOTAL DROPOUTS
PENNSYLVANIA	23,145
SDA 01- Erie County	421
SDA 02	306
Clarion County	50
Crawford County	110
Forest County	6
Venango County	112
Warren County	28
SDA 03- Pittsburgh City	989
SDA 04- Balance of Allegheny County	887
SDA 05- Beaver County	202
SDA 06	405
Armstrong County	75
Butler County	208
Indiana County	122
SDA 07	756
Fayette County	271
Westmoreland County	485
SDA 08	271
Greene County	54
Washington County	217
SDA 09	410
Cameron County	6
Clearfield County	155
Elk County	59
Jefferson County	62
McKean County	106
Potter County	22
SDA 10	801
Bedford County	59
Blair County	414
Cambria County	165
Fulton County	20
Huntingdon County	44
Somerset County	99
SDA 11	457
Centre County	86
Clinton County	61
Lycoming County	243
Mifflin County	67
SDA 12	357
Columbia County	75
Juniata County	33
Montour County	15
Northumberland County	165
Snyder County	49
Union County	20

SERVICE DELIVERY AREA	TOTAL DROPOUTS
SDA 13	299
Bradford County	117
Sullivan County	7
Susquehanna County	74
Tioga County	57
Wyoming County	44
SDA 14- Lackawanna County	233
SDA 15	307
Carbon County	78
Monroe County	153
Pike County	20
Wayne County	56
SDA 16	586
Luzerne County	325
Schuylkill County	261
SDA 17- Philadelphia County	7,899
SDA 18- Bucks County	793
SDA 19- Montgomery County	822
SDA 20- Delaware County	892
SDA 21- Chester County	378
SDA 22	828
Lehigh County	463
Northampton County	465
SDA 23- Berks County	710
SDA 24	820
Cumberland County	259
Dauphin County	320
Lebanon County	156
Perry County	85
SDA 25- Lancaster County	793
SDA 26- York County	508
SDA 27	319
Adams County	162
Franklin County	157
SDA 28	269
Lawrence County	93
Mercer County	176
Balance not assigned a County	327

SOURCE: Pennsylvania Department of Education

PART V-6
LONG TERM UNEMPLOYED (15+ WEEKS)
BY SDA AND COUNTY
1986

SERVICE DELIVERY AREA	LONG TERM UNEMPLOYED
PENNSYLVANIA	120,000
SDA 01- Erie County	3,050
SDA 02	4,000
Clarion County	650
Crawford County	1,500
Forest County	100
Venango County	1,050
Warren County	750
SDA 03- Pittsburgh City	4,700
SDA 04- Balance of Allegheny County	12,100
SDA 05- Beaver County	3,050
SDA 06	4,450
Armstrong County	1,100
Butler County	1,850
Indiana County	1,450
SDA 07	8,450
Fayette County	2,550
Westmoreland County	5,900
SDA 08	3,350
Greene County	650
Washington County	2,700
SDA 09	3,750
Cameron County	50
Clearfield County	1,350
Elk County	600
Jefferson County	800
McKean County	700
Potter County	250
SDA 10	5,050
Bedford County	500
Blair County	1,100
Cambria County	1,750
Fulton County	200
Huntingdon County	400
Somerset County	1,100
SDA 11	2,050
Centre County	500
Clinton County	300
Lycoming County	1,000
Mifflin County	300
SDA 12	1,550
Columbia County	400
Juniata County	250
Montour County	100
Northumberland County	550
Snyder County	100
Union County	150
SDA 13	1,750
Bradford County	650
Sullivan County	50
Susquehanna County	450
Tioga County	300
Wyoming County	300
SDA 14- Lackawanna County	2,000
SDA 15	1,150
Carbon County	450
Monroe County	300
Pike County	100
Wayne County	300
SDA 16	5,250
Luzerne County	3,950
Schuylkill County	1,350
SDA 17- Philadelphia County	20,000
SDA 18- Bucks County	5,950
SDA 19- Montgomery County	4,700
SDA 20- Delaware County	4,650
SDA 21- Chester County	2,500
SDA 22	5,200
Lehigh County	3,100
Northampton County	2,100
SDA 23- Berks County	2,350
SDA 24	3,000
Cumberland County	650
Dauphin County	1,500
Lebanon County	700
Perry County	200
SDA 25- Lancaster County	950
SDA 26- York County	1,800
SDA 27	950
Adams County	350
Franklin County	600
SDA 28	2,200
Lawrence County	1,150
Mercer County	1,050

NOTE: Data are rounded to the nearest 50.

SOURCE: Pennsylvania Office of Employment Security, June 1987.

PART V-7
TEENAGE MOTHERS
BY SDA AND COUNTY
1986

SERVICE DELIVERY AREA	TEENAGE MOTHERS
PENNSYLVANIA	35,412
SDA 01- Erie County	994
SDA 02	628
Clarion County	90
Crawford County	213
Forest County	12
Venango County	189
Warren County	124
SDA 03- Pittsburgh City	1,577
SDA 04- Balance of Allegheny County	1,626
SDA 05- Beaver County	459
SDA 06	756
Armstrong County	221
Butler County	320
Indiana County	215
SDA 07	1,376
Fayette County	610
Westmoreland County	766
SDA 08	619
Greene County	155
Washington County	464
SDA 09	838
Cameron County	29
Clearfield County	285
Elk County	124
Jefferson County	170
McKean County	171
Potter County	59
SDA 10	1,602
Bedford County	158
Blair County	480
Cambria County	466
Fulton County	61
Huntingdon County	188
Somerset County	249
SDA 11	868
Centre County	238
Clinton County	152
Lycoming County	424
Mifflin County	154
SDA 12	776
Columbia County	153
Juniata County	63
Montour County	35
Northumberland County	312
Snyder County	114
Union County	99

SERVICE DELIVERY AREA	TEENAGE MOTHERS
SDA 13	612
Bradford County	235
Sullivan County	17
Susquehanna County	114
Tioga County	153
Wyoming County	93
SDA 14- Lackawanna County	457
SDA 15	392
Carbon County	137
Monroe County	145
Pike County	25
Wayne County	85
SDA 16	1,275
Luzerne County	784
Schuylkill County	491
SDA 17- Philadelphia County	9,798
SDA 18- Bucks County	898
SDA 19- Montgomery County	959
SDA 20- Delaware County	1,333
SDA 21- Chester County	672
SDA 22	1,132
Lehigh County	605
Northampton County	527
SDA 23- Berks County	938
SDA 24	1,634
Cumberland County	307
Dauphin County	921
Lebanon County	305
Perry County	101
SDA 25- Lancaster County	1,017
SDA 26- York County	947
SDA 27	593
Adams County	214
Franklin County	379
SDA 28	536
Lawrence County	226
Mercer County	310

SOURCE: Pennsylvania Department of Health

PART V-7

TEENAGE MOTHERS
BY SDA AND COUNTY
1985

SERVICE DELIVERY AREA	TEENAGE MOTHERS
PENNSYLVANIA	38,124
SDA 01- Erie County	955
SDA 02	698
Clarion County	112
Crawford County	250
Forest County	13
Venango County	182
Warren County	139
SDA 03- Pittsburgh City	1,612
SDA 04- Balance of Allegheny County	1,598
SDA 05- Beaver County	478
SDA 06	808
Armstrong County	235
Butler County	352
Indiana County	221
SDA 07	1,468
Fayette County	676
Westmoreland County	792
SDA 08	684
Greene County	189
Washington County	495
SDA 09	883
Cameron County	33
Clearfield County	287
Elk County	132
Jefferson County	184
McKean County	177
Potter County	70
SDA 10	1,637
Bedford County	179
Blair County	462
Cambria County	485
Fulton County	63
Huntingdon County	190
Somerset County	258
SDA 11	1,029
Centre County	262
Clinton County	173
Lycoming County	425
Mifflin County	169
SDA 12	650
Columbia County	185
Juniata County	84
Montour County	47
Northumberland County	341
Snyder County	117
Union County	98

SERVICE DELIVERY AREA	TEENAGE MOTHERS
SDA 13	835
Bradford County	259
Sullivan County	14
Susquehanna County	115
Tioga County	152
Wyoming County	95
SDA 14- Lackawanna County	469
SDA 15	443
Carbon County	160
Monroe County	172
Pike County	28
Wayne County	83
SDA 16	1,276
Luzerne County	753
Schuylkill County	523
SDA 17- Philadelphia County	9,686
SDA 18- Bucks County	967
SDA 19- Montgomery County	966
SDA 20- Delaware County	1,340
SDA 21- Chester County	742
SDA 22	1,140
Lehigh County	586
Northampton County	554
SDA 23- Berks County	973
SDA 24	1,727
Cumberland County	358
Dauphin County	925
Lebanon County	331
Perry County	115
SDA 25- Lancaster County	1,051
SDA 26- York County	897
SDA 27	567
Adams County	216
Franklin County	351
SDA 28	549
Lawrence County	235
Mercer County	314

SOURCE: Pennsylvania Department of Health

PART V-8-A

DISPLACED HOMEMAKERS BY SDA AND COUNTY 1985

SERVICE DELIVERY AREA	DISPLACED HOMEMAKERS
PENNSYLVANIA	313,000
SDA 01- Erie County	7,000
SDA 02	5,900
Clarion County	900
Crawford County	2,400
Forest County	100
Venango County	1,400
Warren County	1,000
SDA 03- Pittsburgh City	16,300
SDA 04- Balance of Allegheny County	29,300
SDA 05- Beaver County	5,900
SDA 06	7,300
Armstrong County	1,800
Butler County	3,200
Indiana County	2,300
SDA 07	16,700
Fayette County	4,900
Westmoreland County	11,700
SDA 08	7,600
Greene County	1,000
Washington County	6,600
SDA 09	6,600
Cameron County	200
Clearfield County	2,200
Elk County	1,000
Jefferson County	1,400
McKean County	1,300
Potter County	500
SDA 10	13,100
Bedford County	1,400
Blair County	3,900
Cambria County	4,400
Fulton County	300
Huntingdon County	1,300
Somerset County	1,900
SDA 11	8,100
Centre County	2,400
Clinton County	1,000
Lycoming County	3,100
Mifflin County	1,600
SDA 12	7,100
Columbia County	1,700
Juniata County	400
Montour County	400
Northumberland County	3,300
Snyder County	700
Union County	700
SDA 13	4,400
Bradford County	1,600
Sullivan County	100
Susquehanna County	1,000
Tioga County	1,100
Wyoming County	600
SDA 14- Lackawanna County	6,500
SDA 15	4,300
Carbon County	1,600
Monroe County	1,600
Pike County	400
Wayne County	800
SDA 16	16,200
Luzerne County	11,000
Schuylkill County	5,100
SDA 17- Philadelphia County	54,400
SDA 18- Bucks County	9,500
SDA 19- Montgomery County	12,500
SDA 20- Delaware County	11,600
SDA 21- Chester County	5,800
SDA 22	12,800
Lehigh County	6,800
Northampton County	5,800
SDA 23- Berks County	7,800
SDA 24	12,300
Cumberland County	3,100
Dauphin County	6,000
Lebanon County	2,600
Perry County	600
SDA 25- Lancaster County	7,100
SDA 26- York County	7,500
SDA 27	4,000
Adams County	1,500
Franklin County	2,600
SDA 28	5,600
Lawrence County	2,700
Mercer County	3,000

NOTE: Data are rounded to the nearest 100.

SOURCE: Pennsylvania Office of Employment Security

PART V-8-A

DISPLACED HOMEMAKERS
BY SDA AND COUNTY
1985

(continued)

NOTE: Displaced Homemakers are counted periodically by the Women's Bureau, U.S. Department of Labor - the most recent detailed count being in 1976. Between the periodic counts, the number of displaced homemakers will fluctuate and, for economic planning purposes, it is necessary to provide estimates for the years between the counts. To meet this need, the count of displaced homemakers has been projected to 1985 for the State and the 67 counties.

The estimates have been projected from the 1976 counts based on recent national counts of diplaced homemakers from the Women's Bureau, U.S. Department of Labor; labor force and population data for separated, divorced and widowed women from the Current Population Survey, U.S. Department of Labor; and various information from the 1980 Census.

Since the estimates are derived through these related data series rather than direct measurement, the estimates should be used cautiously and only as an indicator of relative significance of displaced homemakers in an area with respect to the State total. For many of the less populated counties, the estimates of displaced homemakers are so small that extra caution should be used.

Data may not add to totals due to rounding to the nearest 100.

SOURCE: Research and Statistics Division, Pennsylvania Office of Employment Security, December 1986.

PART V-8-B

SINGLE PARENTS
BY SDA AND COUNTY
1980

SERVICE DELIVERY AREA	FEMALE	MALE
PENNSYLVANIA	219,907	34,040
SDA 01- Erie County	5,338	893
SDA 02	3,441	722
Clarion County	423	102
Crawford County	1,420	277
Forest County	65	18
Venango County	933	159
Warren County	600	166
SDA 03- Pittsburgh City	12,523	1,128
SDA 04- Balance of Allegheny County	15,295	2,228
SDA 05- Beaver County	3,179	513
SDA 06	3,511	745
Armstrong County	895	170
Butler County	1,713	348
Indiana County	903	229
SDA 07	7,757	1,100
Fayette County	2,793	385
Westmoreland County	4,964	715
SDA 08	3,534	556
Greene County	626	122
Washington County	2,908	434
SDA 09	3,481	616
Cameron County	100	31
Clearfield County	1,119	219
Elk County	536	103
Jefferson County	674	87
McKean County	795	112
Potter County	257	64
SDA 10	7,117	1,248
Bedford County	599	138
Blair County	2,360	374
Cambria County	2,398	412
Fulton County	179	61
Huntingdon County	827	111
Somerset County	856	152
SDA 11	4,808	808
Centre County	1,279	213
Clinton County	814	141
Lycoming County	2,204	334
Mifflin County	711	118
SDA 12	3,413	656
Columbia County	868	172
Juniata County	207	42
Montour County	219	38
Northumberland County	1,495	224
Snyder County	340	82
Union County	284	98
SDA 13	2,450	678
Bradford County	897	302
Sullivan County	84	19
Susquehanna County	437	144
Tioga County	614	153
Wyoming County	338	60
SDA 14- Lackawanna County	3,230	483
SDA 15	2,152	519
Carbon County	598	137
Monroe County	849	221
Pike County	201	46
Wayne County	404	115
SDA 16	6,768	1,040
Luzerne County	4,798	649
Schuylkill County	1,970	391
SDA 17- Philadelphia County	62,218	8,448
SDA 18- Bucks County	7,203	1,737
SDA 19- Montgomery County	8,728	1,571
SDA 20- Delaware County	9,931	1,578
SDA 21- Chester County	5,049	921
SDA 22	7,888	1,498
Lehigh County	4,570	746
Northampton County	3,318	752
SDA 23- Berks County	4,952	1,085
SDA 24	9,814	1,888
Cumberland County	2,264	512
Dauphin County	5,518	906
Lebanon County	1,588	338
Perry County	448	134
SDA 25- Lancaster County	5,199	1,200
SDA 26- York County	5,049	1,034
SDA 27	2,469	659
Adams County	873	272
Franklin County	1,596	387
SDA 28	3,420	485
Lawrence County	1,479	208
Mercer County	1,941	277

SOURCE: U. S. Bureau of the Census, 1980 Census.

PART V-9

Welfare Recipients

Data for this table published separately in Parts V-10 and V-11.

PART V-10

AVERAGE MONTHLY NUMBER OF PERSONS RECEIVING CASH ASSISTANCE
BY SDA AND COUNTY
1986

SERVICE DELIVERY AREA	CASH ASST. RECIPIENTS
PENNSYLVANIA	749,888
SDA 01- Erie County	21,207
SDA 02	15,478
Clarion County	2,599
Crawford County	6,042
Forest County	222
Venango County	4,410
Warren County	2,205
SDA 03- Pittsburgh City	45,866
SDA 04- Balance of Allegheny County	51,513
SDA 05- Beaver County	15,410
SDA 06	15,917
Armstrong County	5,348
Butler County	5,944
Indiana County	4,625
SDA 07	41,480
Fayette County	20,437
Westmoreland County	21,043
SDA 08	18,364
Greene County	4,458
Washington County	13,906
SDA 09	13,963
Cameron County	407
Clearfield County	4,825
Elk County	1,840
Jefferson County	2,370
McKean County	3,385
Potter County	1,338
SDA 10	28,612
Bedford County	2,130
Blair County	9,138
Cambria County	10,146
Fulton County	640
Huntingdon County	2,261
Somerset County	4,277
SDA 11	15,039
Centre County	2,720
Clinton County	2,729
Lycoming County	6,986
Mifflin County	2,604
SDA 12	8,896
Columbia County	2,090
Juniata County	583
Montour County	531
Northumberland County	4,045
Snyder County	782
Union County	865

SERVICE DELIVERY AREA	CASH ASST. RECIPIENTS
SDA 13	8,131
Bradford County	4,178
Sullivan County	147
Susquehanna County	1,421
Tioga County	2,126
Wyoming County	1,259
SDA 14- Lackawanna County	10,422
SDA 15	4,830
Carbon County	1,937
Monroe County	1,559
Pike County	316
Wayne County	1,018
SDA 16	21,951
Luzerne County	16,765
Schuylkill County	5,186
SDA 17- Philadelphia County	274,443
SDA 18- Bucks County	9,041
SDA 19- Montgomery County	9,582
SDA 20- Delaware County	21,888
SDA 21- Chester County	7,563
SDA 22	17,439
Lehigh County	9,815
Northampton County	7,624
SDA 23- Berks County	11,292
SDA 24	16,512
Cumberland County	1,921
Dauphin County	12,777
Lebanon County	2,681
Perry County	1,133
SDA 25- Lancaster County	11,575
SDA 26- York County	9,429
SDA 27	4,311
Adams County	1,148
Franklin County	3,163
SDA 28	16,734
Lawrence County	8,225
Mercer County	8,509

SOURCE: Pennsylvania Department of Welfare

PART V-11

AVERAGE MONTHLY NUMBER OF PERSONS RECEIVING AFDC BY SDA AND COUNTY 1988

SERVICE DELIVERY AREA	AFDC RECIPIENTS
PENNSYLVANIA	580,319
SDA 01- Erie County	16,500
SDA 02	11,880
Clarion County	1,945
Crawford County	4,702
Forest County	148
Venango County	3,420
Warren County	1,845
SDA 03- Pittsburgh City	35,176
SDA 04- Balance of Allegheny County	38,678
SDA 05- Beaver County	11,894
SDA 06	11,737
Armstrong County	3,887
Butler County	4,532
Indiana County	3,318
SDA 07	31,447
Fayette County	15,931
Westmoreland County	15,516
SDA 08	13,782
Greene County	3,189
Washington County	10,593
SDA 09	10,225
Cameron County	319
Clearfield County	3,449
Elk County	1,262
Jefferson County	1,815
McKean County	2,475
Potter County	905
SDA 10	21,772
Bedford County	1,632
Blair County	6,751
Cambria County	7,782
Fulton County	444
Huntingdon County	1,702
Somerset County	3,461
SDA 11	11,183
Centre County	1,930
Clinton County	2,079
Lycoming County	5,313
Mifflin County	1,861
SDA 12	6,583
Columbia County	1,536
Juniata County	436
Montour County	351
Northumberland County	2,971
Snyder County	570
Union County	719

SERVICE DELIVERY AREA	AFDC RECIPIENTS
SDA 13	6,454
Bradford County	2,878
Sullivan County	119
Susquehanna County	1,129
Tioga County	1,423
Wyoming County	905
SDA 14- Lackawanna County	8,271
SDA 15	3,729
Carbon County	1,352
Monroe County	1,275
Pike County	255
Wayne County	847
SDA 16	17,419
Luzerne County	13,428
Schuylkill County	3,991
SDA 17- Philadelphia County	215,905
SDA 18- Bucks County	7,144
SDA 19- Montgomery County	7,304
SDA 20- Delaware County	17,119
SDA 21- Chester County	6,029
SDA 22	13,629
Lehigh County	7,605
Northampton County	6,024
SDA 23- Berks County	9,383
SDA 24	14,436
Cumberland County	1,411
Dauphin County	10,169
Lebanon County	1,988
Perry County	870
SDA 25- Lancaster County	9,170
SDA 26- York County	7,332
SDA 27	3,278
Adams County	800
Franklin County	2,478
SDA 28	12,580
Lawrence County	6,092
Mercer County	6,488

SOURCE: Pennsylvania Department of Welfare

PART V-12

PROJECTED 1990 POPULATION
FOR SELECTED AGE GROUPS
BY SDA AND COUNTY

SERVICE DELIVERY AREA	14-15	16-19	20-21
PENNSYLVANIA	307,986	633,637	344,421
SDA 01- Erie County	7,991	16,506	8,866
SDA 02	7,436	15,628	7,308
Clarion County	1,481	3,636	1,882
Crawford County	2,720	5,792	2,591
Forest County	143	302	131
Venango County	1,759	3,313	1,573
Warren County	1,333	2,585	1,131
SDA 03- Pittsburgh City	8,715	19,571	14,087
SDA 04- Balance of Allegheny County	21,888	42,585	22,270
SDA 05- Beaver County	5,119	9,865	4,506
SDA 06	9,960	21,707	11,648
Armstrong County	2,374	4,800	2,100
Butler County	4,379	8,968	4,899
Indiana County	3,207	7,939	4,649
SDA 07	13,927	27,614	13,611
Fayette County	4,234	8,511	4,129
Westmoreland County	9,693	19,103	9,482
SDA 08	6,973	14,352	6,720
Greene County	1,327	2,730	1,218
Washington County	5,646	11,622	5,502
SDA 09	6,998	13,771	6,412
Cameron County	169	370	131
Clearfield County	2,525	4,893	2,326
Elk County	980	1,842	965
Jefferson County	1,452	2,926	1,314
McKean County	1,253	2,465	1,196
Potter County	619	1,275	480
SDA 10	13,847	27,839	12,728
Bedford County	1,421	2,806	1,297
Blair County	3,661	7,479	3,517
Cambria County	4,753	9,631	4,154
Fulton County	421	826	336
Huntingdon County	1,258	2,644	1,351
Somerset County	2,333	4,453	2,073
SDA 11	9,484	22,793	14,948
Centre County	3,892	11,203	9,363
Clinton County	1,179	2,650	1,420
Lycoming County	3,150	6,360	2,943
Mifflin County	1,263	2,580	1,222
SDA 12	7,157	15,629	8,279
Columbia County	1,737	4,342	2,258
Juniata County	601	1,212	520
Montour County	353	665	372
Northumberland County	2,503	4,978	2,335
Snyder County	1,020	2,222	1,320
Union County	943	2,210	1,474
SDA 13	5,395	10,901	4,908
Bradford County	1,832	3,538	1,631
Sullivan County	181	414	194
Susquehanna County	1,263	2,481	983
Tioga County	1,181	2,518	1,280
Wyoming County	938	1,950	820
SDA 14- Lackawanna Cnty	5,593	11,834	6,139
SDA 15	5,604	11,415	5,745
Carbon County	1,401	2,894	1,371
Monroe County	2,474	5,033	2,736
Pike County	519	1,074	630
Wayne County	1,210	2,414	1,008
SDA 16	11,886	24,932	11,821
Luzerne County	8,103	17,062	8,353
Schuylkill County	3,783	7,870	3,468
SDA 17- Philadelphia Co.	39,615	81,933	50,792
SDA 18- Bucks County	14,864	29,328	15,279
SDA 19- Montgomery Cnty	15,349	31,342	18,205
SDA 20- Delaware County	12,867	26,405	15,413
SDA 21- Chester County	9,683	19,753	10,563
SDA 22	12,849	26,327	14,910
Lehigh County	6,667	13,379	7,738
Northampton County	6,182	12,948	7,172
SDA 23- Berks County	8,178	16,685	9,328
SDA 24	14,989	30,705	16,487
Cumberland County	4,789	10,096	5,877
Dauphin County	5,972	11,733	6,237
Lebanon County	3,055	6,519	3,115
Perry County	1,173	2,357	1,258
SDA 25- Lancaster County	11,425	22,923	12,344
SDA 26- York County	8,992	18,379	9,628
SDA 27	5,316	11,106	5,680
Adams County	1,985	4,161	2,449
Franklin County	3,331	6,945	3,231
SDA 28	5,886	11,809	5,796
Lawrence County	2,513	4,823	2,509
Mercer County	3,373	6,986	3,287

SOURCE: Pennsylvania State Data Center, Pennsylvania State University.
Pennsylvania Department of Labor and Industry, Office of Employment Security.

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PART V-13

AVERAGE MONTHLY UNEMPLOYED EXHAUSTEES BY SDA AND COUNTY 1986

SERVICE DELIVERY AREA	UNEMPLOYED EXHAUSTEES
PENNSYLVANIA	58,000
SDA 01- Erie County	1,550
SDA 02	1,500
Clarion County	200
Crawford County	650
Forest County	50
Venango County	400
Warren County	250
SDA 03- Pittsburgh City	2,200
SDA 04- Balance of Allegheny County	5,450
SDA 05- Beaver County	1,750
SDA 06	1,800
Armstrong County	500
Butler County	750
Indiana County	550
SDA 07	4,150
Fayette County	1,350
Westmoreland County	2,800
SDA 08	1,750
Greene County	300
Washington County	1,450
SDA 09	1,650
Cameron County	50
Clearfield County	600
Elk County	300
Jefferson County	350
McKean County	250
Potter County	100
SDA 10	2,950
Bedford County	300
Blair County	700
Cambria County	1,100
Fulton County	50
Huntingdon County	300
Somerset County	550
SDA 11	1,400
Centre County	350
Clinton County	200
Lycoming County	550
Mifflin County	300
SDA 12	1,300
Columbia County	300
Juniata County	100
Montour County	50
Northumberland County	700
Snyder County	100
Union County	100

SERVICE DELIVERY AREA	UNEMPLOYED EXHAUSTEES
SDA 13	600
Bradford County	200
Sullivan County	0
Susquehanna County	150
Tioga County	200
Wyoming County	100
SDA 14- Lackawanna County	1,000
SDA 15	750
Carbon County	300
Monroe County	300
Pike County	50
Wayne County	100
SDA 16	3,200
Luzerne County	2,250
Schuylkill County	950
SDA 17- Philadelphia County	8,750
SDA 18- Bucks County	1,950
SDA 19- Montgomery County	2,100
SDA 20- Delaware County	1,800
SDA 21- Chester County	850
SDA 22	2,750
Lehigh County	1,550
Northampton County	1,200
SDA 23- Berks County	1,400
SDA 24	1,850
Cumberland County	350
Dauphin County	750
Lebanon County	450
Perry County	100
SDA 25- Lancaster County	750
SDA 26- York County	1,200
SDA 27	550
Adams County	150
Franklin County	350
SDA 28	1,150
Lawrence County	600
Mercer County	600

NOTE: Data are rounded to the nearest 50.

SOURCE: Pennsylvania Office of Employment Security 1 5 7

PART V-14

TOTAL PERSONS EXHAUSTING UC BENEFITS
WHILE FULLY UNEMPLOYED
BY SDA AND COUNTY
1986

SERVICE DELIVERY AREA	TOTAL EXHAUSTEES
PENNSYLVANIA	114,150
SDA 01- Erie County	3,400
SDA 02	3,050
Clarion County	400
Crawford County	1,200
Forest County	50
Venango County	850
Warren County	550
SDA 03- Pittsburgh City	4,500
SDA 04- Balance of Allegheny County	11,050
SDA 05- Beaver County	3,200
SDA 06	3,750
Armstrong County	1,000
Butler County	1,600
Indiana County	1,200
SDA 07	7,850
Fayette County	2,400
Westmoreland County	5,450
SDA 08	3,150
Greene County	500
Washington County	2,600
SDA 09	3,200
Cameron County	50
Clearfield County	1,200
Elk County	550
Jefferson County	700
McKean County	550
Potter County	150
SDA 10	5,650
Bedford County	550
Blair County	1,350
Cambria County	2,150
Fulton County	100
Huntingdon County	550
Somerset County	950
SDA 11	2,450
Centre County	700
Clinton County	300
Lycoming County	950
Mifflin County	500
SDA 12	2,250
Columbia County	600
Juniata County	200
Montour County	100
Northumberland County	1,100
Snyder County	150
Union County	150

SERVICE DELIVERY AREA	TOTAL EXHAUSTEES
SDA 13	1,150
Bradford County	350
Sullivan County	50
Susquehanna County	250
Tioga County	300
Wyoming County	250
SDA 14- Lackawanna County	1,850
SDA 15	1,600
Carbon County	650
Monroe County	600
Pike County	100
Wayne County	200
SDA 16	6,000
Luzerne County	4,250
Schuylkill County	1,750
SDA 17- Philadelphia County	17,350
SDA 18- Bucks County	4,050
SDA 19- Montgomery County	4,250
SDA 20- Delaware County	3,600
SDA 21- Chester County	1,850
SDA 22	5,850
Lehigh County	3,400
Northampton County	2,400
SDA 23- Berks County	2,900
SDA 24	3,350
Cumberland County	700
Dauphin County	1,500
Lebanon County	800
Perry County	250
SDA 25- Lancaster County	1,300
SDA 26- York County	2,150
SDA 27	950
Adams County	300
Franklin County	650
SDA 28	2,300
Lawrence County	1,050
Mercer County	1,200

NOTE: Data are rounded to the nearest 50.

SOURCE: Pennsylvania Office of Employment Security

PART V-15

ECONOMICALLY DISADVANTAGED ON PUBLIC ASSISTANCE BY SELECTED CATEGORIES AND BY COUNTY

MARCH 1987

COUNTY	Persons Dependent on Public Assistance	% of Population 1/	Aid to Families with Dependent Children			General Assistance		Estimated Number Employable 3/
			Number of Persons	Number of Cases	WIN Regists. 2/	Number of Persons	Number of Cases	
Adams	1,182	1.7	855	326	81	318	253	144
Allegheny	96,527	7.0	72,889	25,072	27,217	23,239	20,243	49,192
Armstrong	3,397	6.7	3,920	1,246	1,491	1,460	1,067	2,768
Beaver	15,127	7.6	11,544	3,779	3,571	3,514	2,908	6,319
Bedford	2,109	4.4	1,588	517	474	506	360	804
Berks	11,481	3.6	9,520	3,080	1,871	1,876	1,656	2,877
Blair	8,997	6.8	6,516	2,152	2,687	2,446	1,796	4,929
Bradford	4,125	6.4	2,841	925	637	1,265	807	1,193
Bucks	8,792	1.7	6,965	2,499	2,298	1,768	1,522	3,698
Butler	5,751	3.8	4,302	1,420	2,130	1,422	1,103	3,785
Cambria	10,089	5.8	7,645	2,367	2,772	2,401	1,815	4,898
Cameron	420	6.4	298	101	73	121	99	145
Carbon	1,862	3.5	1,328	473	378	519	372	675
Centre	2,689	2.4	1,900	657	853	767	598	1,629
Chester	7,047	2.1	5,666	1,979	1,640	1,342	1,129	2,576
Clarion	2,592	5.8	1,909	582	1,002	670	512	1,883
Clearfield	4,956	6.0	3,478	1,091	1,435	1,455	1,038	2,800
Clinton	2,591	6.5	1,946	669	750	827	482	1,290
Columbia	1,961	3.2	1,417	484	505	524	400	922
Crawford	6,180	6.9	4,733	1,493	1,810	1,426	1,140	3,192
Cumberland	1,934	1.0	1,399	524	1,338	500	411	2,387
Dauphin	13,036	5.5	10,316	3,428	2,396	2,673	2,083	3,852
Delaware	21,104	3.8	16,478	5,502	5,445	4,345	3,934	9,338
Elk	1,630	4.4	1,210	401	419	406	308	741
Erie	20,913	7.5	16,194	5,107	4,298	4,384	3,471	7,219
Fayette	20,844	13.3	15,915	4,833	5,230	4,878	3,670	9,201
Forest	287	5.9	194	61	103	92	69	220
Franklin	3,217	2.7	2,477	832	765	716	588	1,306
Fulton	683	5.0	457	154	86	222	156	173
Greene	4,535	11.0	3,225	972	1,165	1,301	880	2,220
Huntingdon	2,185	5.1	1,619	535	662	546	416	1,177
Indiana	4,669	5.0	3,311	1,020	1,089	1,342	962	2,116
Jefferson	2,506	5.2	1,904	606	518	596	416	874
Juniata	515	2.6	374	132	269	134	102	477
Lackawanna	10,406	4.7	8,164	2,717	1,083	2,069	1,783	1,794
Lancaster	11,899	3.1	9,284	3,022	734	2,575	1,970	1,212
Lawrence	8,187	7.9	6,078	1,923	2,275	2,065	1,543	4,100
Lebanon	2,583	2.3	1,919	673	698	656	475	1,191
Lehigh	9,940	3.6	7,710	2,565	2,245	2,135	1,628	3,670
Luzerne	16,652	5.0	13,282	4,271	4,551	3,275	2,852	7,590
Lycoming	6,970	6.0	5,149	1,759	2,134	1,781	1,444	3,886
McKean	3,447	7.0	2,505	801	826	922	654	1,500
Mercer	8,591	6.8	6,435	2,097	2,160	2,128	1,589	3,797
Mifflin	2,576	5.6	1,852	640	659	713	556	1,232
Monroe	1,495	1.9	1,183	431	245	296	246	385
Montgomery	9,005	1.4	6,850	2,429	2,387	2,068	1,823	4,178
Montour	521	3.1	345	121	157	173	117	309
Northampton	7,286	3.1	5,784	1,992	1,669	1,454	1,170	2,649
Northumberland	3,781	3.8	2,755	957	932	991	745	1,658
Perry	1,193	3.2	941	329	369	244	191	583
Philadelphia	267,173	16.3	209,761	69,314	58,978	56,988	46,885	98,872
Pike	357	1.7	258	98	82	94	65	136
Potter	1,284	6.9	906	277	302	386	234	579
Schuylkill	5,206	3.3	3,965	1,316	913	1,184	887	1,528
Snyder	762	2.2	595	195	302	164	101	458
Somerset	4,301	5.3	3,452	1,046	1,266	820	672	2,079
Sullivan	157	2.6	119	35	64	37	35	128
Susquehanna	1,420	3.6	1,114	359	279	284	198	433
Tioga	2,272	5.6	1,537	497	243	728	417	447
Union	779	2.3	655	220	288	119	101	420
Venango	4,518	7.2	3,433	1,081	1,310	1,072	824	2,309
Warren	2,260	4.8	1,712	557	848	530	401	1,458
Washington	13,824	6.5	10,347	3,402	5,521	3,416	2,706	9,912
Wayne	1,094	2.9	904	281	219	168	125	316
Westmoreland	21,136	5.5	15,263	5,004	7,551	5,744	4,386	14,169
Wyoming	1,252	4.5	922	313	346	322	242	614
York	9,287	2.9	7,207	2,440	2,510	2,023	1,678	4,236
PENNSYLVANIA	739,547	6.2	568,719	188,181	181,604	167,805	135,529	314,848

See footnotes on next page.

ECONOMICALLY DISADVANTAGED ON PUBLIC ASSISTANCE
BY SELECTED CATEGORIES AND BY COUNTY

FOOTNOTES

1/ Based on Bureau of the Census Estimates for July 1, 1985. The state total is 11,873,000.

2/ Persons registered under the WIN Demonstration Program that is administered by the Pennsylvania Office of Employment Security and the Department of Public Welfare offering job placement, training or special work project opportunities to persons receiving aid under the "Aid to Families with Dependent Children" program (AFDC) of the State Department of Welfare.

3/ Estimated by the Pennsylvania Office of Employment Security.

NOTE: Obviously one case could include several persons, e.g. one AFDC case could include a head of household and several children.

SOURCE: Public Assistance data are provided by the Pennsylvania Department of Public Welfare.

PART V-16

DISLOCATED WORKERS
BY SDA AND COUNTY
1986 ANNUAL AVERAGE

SERVICE DELIVERY AREA	DISLOCATED WORKERS
PENNSYLVANIA	116,500
SDA 01- Erie County	2,900
SDA 02	2,750
Clarion County	400
Crawford County	1,200
Forest County	50
Venango County	700
Warren County	400
SDA 03- Pittsburgh City	3,950
SDA 04- Balance of Allegheny County	11,950
SDA 05- Beaver County	3,200
SDA 06	3,650
Armstrong County	1,000
Butler County	1,600
Indiana County	1,050
SDA 07	8,300
Fayette County	2,400
Westmoreland County	5,900
SDA 08	3,650
Greene County	500
Washington County	3,150
SDA 09	3,050
Cameron County	50
Clearfield County	1,200
Elk County	450
Jefferson County	600
McKean County	500
Potter County	250
SDA 10	5,550
Bedford County	700
Blair County	1,450
Cambria County	1,700
Fulton County	150
Huntingdon County	600
Somerset County	950
SDA 11	3,100
Centre County	800
Clinton County	450
Lycoming County	1,250
Mifflin County	550
SDA 12	2,400
Columbia County	600
Juniata County	200
Montour County	100
Northumberland County	950
Snyder County	250
Union County	250

SERVICE DELIVERY AREA	DISLOCATED WORKERS
SDA 13	1,700
Bradford County	550
Sullivan County	50
Susquehanna County	400
Tioga County	400
Wyoming County	250
SDA 14- Lackawanna County	1,950
SDA 15	1,700
Carbon County	550
Monroe County	700
Pike County	150
Wayne County	300
SDA 16	5,200
Luzerne County	3,650
Schuylkill County	1,550
SDA 17- Philadelphia County	16,950
SDA 18- Bucks County	4,600
SDA 19- Montgomery County	4,700
SDA 20- Delaware County	4,050
SDA 21- Chester County	1,950
SDA 22	4,650
Lehigh County	2,350
Northampton County	2,300
SDA 23- Berks County	2,950
SDA 24	3,700
Cumberland County	950
Dauphin County	1,450
Lebanon County	1,050
Perry County	300
SDA 25- Lancaster County	1,550
SDA 26- York County	2,750
SDA 27	1,250
Adams County	500
Franklin County	750
SDA 28	2,500
Lawrence County	1,250
Mercer County	1,300

NOTE: The estimates for dislocated workers are based on data derived from the monthly Current Population Survey, conducted by the U.S. Bureau of Census for the U.S. Bureau of Labor Statistics, that provides basic data on employment and unemployment for Pennsylvania.

The estimates include only those individuals in the labor force who have been laid off and are not likely to return to their previous jobs. They do not include those individuals who have dropped out of the labor force, i.e., are not actively seeking work.

On this basis, the estimates should be used cautiously and only as an indicator of relative significance of dislocated workers in an area with respect to the State total. For many of the less populated counties, estimates of dislocated workers are so small that extra caution should be used.

Data may not add to totals due to rounding to the nearest 50.

SOURCE: Research and Statistics Division, Pennsylvania Office of Employment Security.

U.S. OFFICE OF MANAGEMENT AND BUDGET
ANNUAL INCOME POVERTY LEVEL CRITERIA FOR CONTINENTAL U.S.

FAMILY SIZE	Effective Date			
	April 1986	April 1985	April 1984	April 1983
1	$ 5,360	$ 5,250	$ 4,980	$ 4,860
2	7,240	7,050	6,720	6,540
3	9,120	8,850	8,460	8,220
4	11,000	10,650	10,200	9,900
5	12,880	12,450	11,940	11,580
6	14,760	14,250	13,680	13,260
7	16,640	16,050	15,420	14,940
8	18,520	17,850	17,160	16,620
EACH ADDITIONAL MEMBER	1,880	1,800	1,740	1,680

U.S. EMPLOYMENT AND TRAINING ADMINISTRATION
1986 LOWER LIVING STANDARD INCOME LEVEL

FAMILY SIZE	Philadelphia PMSA *		Pittsburgh PMSA *	
	100%	70%	100%	70%
1	$ 6,540	$ 4,580	$ 6,530	$ 4,570
2	10,710	7,500	10,700	7,490
3	14,710	10,300	14,690	10,280
4	18,150	12,710	18,130	12,690
5	21,430	15,000	21,390	14,970
6	25,060	17,540	25,010	17,510
7	28,260	19,780	28,630	20,040
8	31,890	22,320	32,240	22,570
EACH ADDITIONAL MEMBER	3,630	2,540	3,610	2,530

Balance of Pennsylvania

FAMILY SIZE	Metropolitan Area		Non-Metropolitan Area	
	100%	70%	100%	70%
1	$ 6,660	$ 4,660	$ 6,510	$ 4,560
2	10,910	7,640	10,690	7,480
3	14,990	10,490	14,670	10,270
4	18,500	12,950	18,110	12,680
5	21,830	15,280	21,370	14,960
6	25,530	17,870	25,000	17,500
7	29,230	20,460	28,630	20,040
8	32,930	23,050	32,260	22,580
EACH ADDITIONAL MEMBER	3,700	2,590	3,630	2,540

* - LLSIL data released March 1986, MSA LLSIL data revised June 1986.

PART V-18

PENNSYLVANIA

ESTIMATED COUNT OF EX-OFFENDERS BY SDA AND COUNTY 1988

SERVICE DELIVERY AREA	EX-OFFENDERS
PENNSYLVANIA	31,517
SDA 01- Erie County	1,069
SDA 02	1,244
Clarion County	95
Crawford County	501
Forest County	10
Venango County	373
Warren County	265
SDA 03- Pittsburgh City	1,287
SDA 04- Balance of Allegheny County	859
SDA 05- Beaver County	401
SDA 06	294
Armstrong County	62
Butler County	77
Indiana County	155
SDA 07	431
Fayette County	155
Westmoreland County	276
SDA 08	587
Greene County	81
Washington County	506
SDA 09	701
Cameron County	10
Clearfield County	409
Elk County	24
Jefferson County	108
McKean County	92
Potter County	58
SDA 10	991
Bedford County	74
Blair County	258
Cambria County	249
Fulton County	7
Huntingdon County	171
Somerset County	232
SDA 11	1,498
Centre County	310
Clinton County	113
Lycoming County	917
Mifflin County	158
SDA 12	820
Columbia County	169
Juniata County	58
Montour County	61
Northumberland County	359
Snyder County	85
Union County	88
SDA 13	260
Bradford County	37
Sullivan County	4
Susquehanna County	97
Tioga County	71
Wyoming County	51
SDA 14- Lackawanna County	346
SDA 15	442
Carbon County	127
Monroe County	207
Pike County	46
Wayne County	62
SDA 16	840
Luzerne County	526
Schuylkill County	314
SDA 17- Philadelphia County	5,669
SDA 18- Bucks County	1,618
SDA 19- Montgomery County	1,468
SDA 20- Delaware County	1,728
SDA 21- Chester County	1,283
SDA 22	1,062
Lehigh County	579
Northampton County	483
SDA 23- Berks County	938
SDA 24	2,593
Cumberland County	589
Dauphin County	1,492
Lebanon County	424
Perry County	88
SDA 25- Lancaster County	655
SDA 26- York County	1,080
SDA 27	589
Adams County	230
Franklin County	359
SDA 28	804
Lawrence County	275
Mercer County	529

An EX-OFFENDER is a person who has been released on parole or probation during the prior two years. These data are for the years 1984 and 1985.

SOURCE: Pennsylvania Department of Corrections

PART V SDA TARGETED SERVICE GROUPS

FOOTNOTES

1/ Based on 1980 Census Figures. State total 11,864,751.

2/ Persons registered under the WIN Demonstration Program that is administered by the Pennsylvania Office of Employment Security and Department of Public Welfare offering job placement, training or special work project opportunities to persons receiving aid under the "Aid to Families with Dependent Children" program (AFDC) of the State Department of Welfare.

3/ Estimated by Pennsylvania Office of Employment Security.

NOTE: Obviously one case could include several persons, e.g. one AFDC case could include a head of household and several children.

SOURCE: Public Assistance data provided by the Pennsylvania Department of Public Welfare.

APPENDIX E: POST-SECONDARY VOCATIONAL EDUCATION PROGRAMS

Information in this Appendix is designed to supplement post-secondary vocational education data that appear in Chapter III.

Enrollments and Completers, 1985-86

As defined in Vocational Education Statistics, 1985-86, a vocational education post-secondary program is one that is "offered in higher education institutions that are legally authorized to grant degrees or that are included on the list of post-secondary institutions in the Pennsylvania State Plan for Vocational Education." (Pennsylvania Department of Education, 1987e, p 28).

Highlights of vocational education data for post-secondary programs for 1986 as reported by the Vocational Education Management Information Systems are:

(1) 90,040 enrollments were reported at the post-secondary level. This includes a total of 3,406 enrollments in Customized Job Training and Training for Occupations with Promise.

(2) 70,969 students were reported at the 14 community colleges; 3,821 students were reported at 18 Pennsylvania State University campuses; and a total of 15,250 enrollments were reported at 56 other institutions.

(3) 67,927 students, or 75.4%, were reported as preparatory; 22,113 students, or 24.6%, were reported as supplemental.

(4) The number of students included 180, or 0.2%, American Indians or Alaskan Natives; 7,855, or 8.7%, Blacks (not of Hispanic origin); 1,056, or 1.2%, Asians or Pacific Islanders; 79,986, or 88.8%, Whites (not of Hispanic origin); 834, or 0.9%, Hispanics; and 129, or 0.2%, non-resident aliens.

(5) 54.3% of the enrollments were female.

(6) 13,878 preparatory students completed a vocational program, of which 10,286, or 74.1%, received associate degrees.

(Pennsylvania Department of Education, 1984-86; VEMIS: Enrollments and Completers in Post-Secondary Programs, 1985-86, p.i).

Specialized terms are defined in Appendix B. Tabular and graphic portrayals of the post-secondary data are shown in the following tables and figures.

TABLE 1
PENNSYLVANIA VOCATIONAL EDUCATION
POSTSECONDARY ENROLLMENTS BY STUDENT TYPE, RACE, SEX, AND SPECIAL NEEDS
1983-84 THROUGH 1985-86

	1983-84 1/	1984-85 2/	1985-86
TOTAL ENROLLMENT	83 155	93 133	90 040
STUDENT TYPE			
Preparatory	64 459	72 648	67 927
Supplemental	18 696	20 485	22 113
Apprenticeship 3/	1 265	989	717
RACE			
AI/AN	167	188	180
Black	7 576	8 478	7 855
Asian	898	950	1 056
White	73 630	82 492	79 986
Hispanic	761	849	834
Nonresident Alien	123	176	129
SEX			
Female	43 530	49 898	48 876
Male	39 625	43 235	41 164
SPECIAL NEEDS			
Handicapped	2 021	2 318	2 338
LEP	438	567	665
Disadvantaged	12 895	15 249	14 754

1/ Does not include enrollments for Customized Job Training and Training for Occupations with Promise.

2/ Includes data for 44 additional institutions not in previous years' reports.

3/ Apprenticeship enrollments are included in the Supplemental totals.

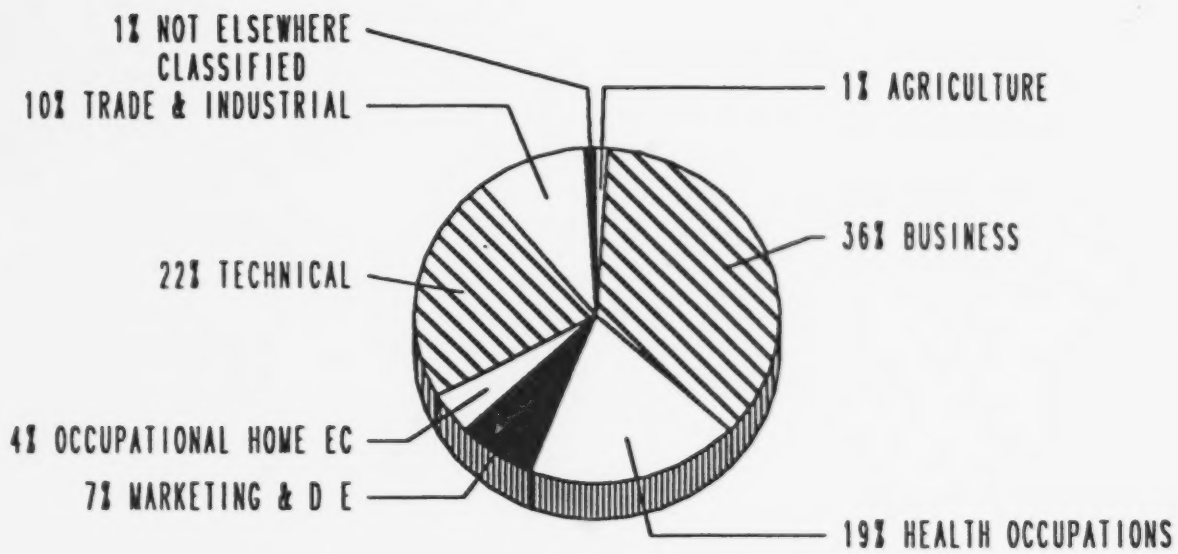
Source: (Pennsylvania Department of Education, 1984-86; VEMIS: Enrollments and Completers in Post-Secondary Programs, 1985-86, p. 10)

TABLE 2
PENNSYLVANIA VOCATIONAL EDUCATION
POSTSECONDARY PREPARATORY ENROLLMENTS/COMPLETERS
BY PROGRAM FIELD, RACE, AND SEX
1985-86

	Preparatory Enrollments	Preparatory Completers
TOTAL	67 927	13 878
PROGRAM FIELD		
Agriculture Education	724	214
Business Education	26 830	3 819
Health Occupations Education	10 723	3 526
Marketing and Distributive Education	4 142	519
Occupational Home Economics Education	3 189	1 030
Technical Education	15 669	3 036
Trade and Industrial Education	5 707	1 581
Not Elsewhere Classified	943	153
RACE		
Black	7 208	1 092
White	58 786	12 495
Other	1 933	291
SEX		
Female	37 437	7 807
Male	30 490	6 071

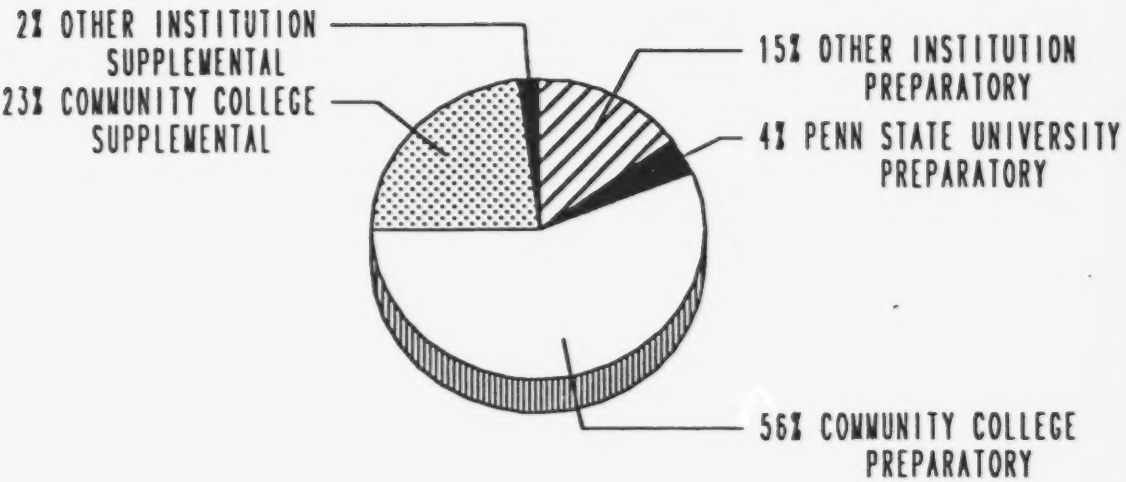
Source: (Pennsylvania Department of Education, 1984-86; VEMIS: Enrollments and Completers in Post-Secondary Programs, 1985-86, p. 11)

FIGURE 1
PENNSYLVANIA VOCATIONAL EDUCATION
POSTSECONDARY ENROLLMENTS BY PROGRAM FIELD
1985-86



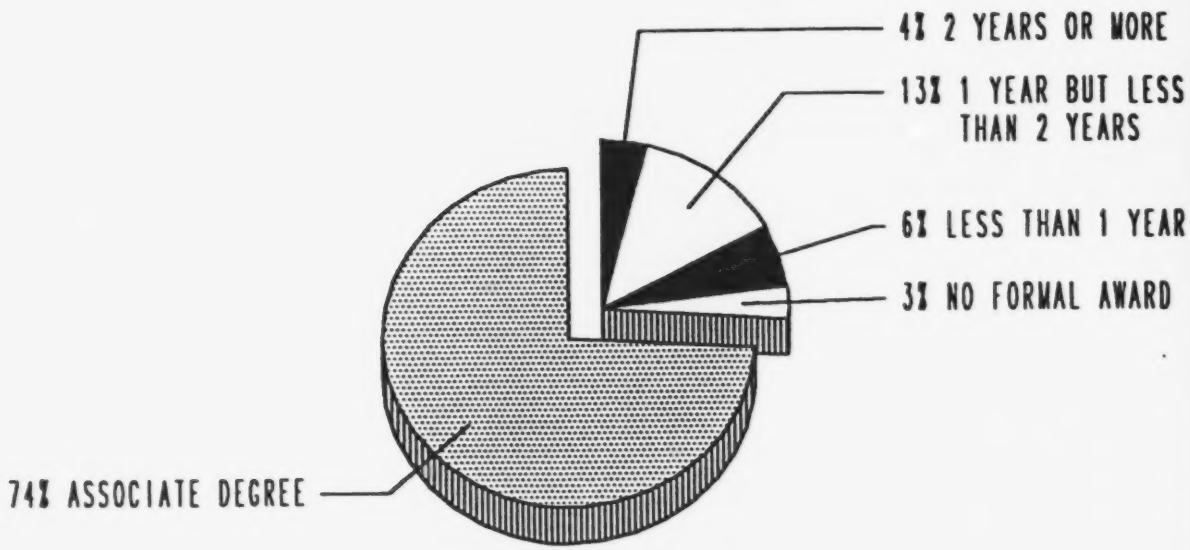
Source: (Pennsylvania Department of Education, 1984-86; VEMIS: Enrollments and Completers in Post-Secondary Programs, 1985-86, p. 12)

FIGURE 2
PENNSYLVANIA VOCATIONAL EDUCATION
POSTSECONDARY ENROLLMENTS BY TYPE OF INSTITUTION
BY STUDENT TYPE
1985-86


2% OTHER INSTITUTION SUPPLEMENTAL
23% COMMUNITY COLLEGE SUPPLEMENTAL
15% OTHER INSTITUTION PREPARATORY
4% PENN STATE UNIVERSITY PREPARATORY
56% COMMUNITY COLLEGE PREPARATORY

Source: (Pennsylvania Department of Education, 1984-86; VEMIS: Enrollments and Completers in Post-Secondary Programs, 1985-86, p. 13)

FIGURE 3
PENNSYLVANIA VOCATIONAL EDUCATION
POSTSECONDARY PREPARATORY COMPLETERS BY TYPE OF AWARD
1985-86



Source: (Pennsylvania Department of Education, 1984-86; VEMIS: Enrollments and Completers in Post-Secondary Programs, 1985-86, p. 14)

Included in the aforementioned VEMIS Report are detailed summary tables that show statistics for post-secondary enrollments/completers, 1985-86, at community colleges, The Pennsylvania State University, and other institutions. Comparable data are shown for each post-secondary institution, but no county listing is included.

FOLLOW-UP DATA

Follow-up information for post-secondary vocational education completers is not collected by VEMIS. The most recent publication relating to follow-up data is entitled Postgraduation Activities: All Degree Levels in Pennsylvania, 1984. It was published in October, 1986 by the Pennsylvania Department of Education's Bureau of Higher Education Planning and Research. Information for all 1984 degree graduates was obtained with the assistance of 145, or 87%, of the 167 institutions. They provided data regarding 47,055, or 67%, of 69,834 degree recipients from the institutions in 1984. Each degree level, i.e. associate, baccalaureate, master's, doctoral, and first-professional.

Post-secondary vocational education program completers were not included as a separate entry. The closest relationship of the follow-up data to post-secondary programs relate to associate degree completers in 1984. Highlights of those findings are:

(1) Returns were received from:

(a) 11,946, or 68.1%, of the total number of 17,550 recipients of associate degrees in 1984.

(b) 1,609, or 56.8%, of 2,833 degree recipients from colleges and universities.

(c) 6,645, or 61.5%, of 10,807 degree recipients from community colleges.

(d) 3,608, or 95.7%, of 3,771 degree recipients from proprietary institutions.

(e) 84, or 60.4%, of 139 recipients from state technology schools.

(2) The employment status of reported graduates was:

(a) 65.9% were employed full-time.

(b) 6.6% were employed part-time.

(c) 8.3% were unemployed.

(d) 15.9% were seeking advanced degrees.

(3) The status of those employed full-time was:

(a) 86.1% were employed in a degree-related job.

(b) 84.5% were employed in Pennsylvania.

(4) Despite an economic recession, associate degree graduates found degree-related employment at a level similar to graduates in previous years.

(5) There is a reduction in the proportion of those going on for an advanced degree.

(6) Extensive tabular information is provided in the report for major disciplines, but data are not identified by post-secondary vocational education classification codes. Furthermore, they are not listed by county.

The only data, by county, identified in the study for all degree granting post-secondary institutions were enrollments from 1979-85. That information, obtained from the PDE's Bureau of Higher Education Planning and Research, is included as the final entry in this Appendix.

REPORT NO. 01

DEGREE PROGRAM ENROLLMENTS BY COUNTY, 1979-85

12/04/86 PAGE

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
TOTAL, ALL INSTITUTIONS AND CAMPUSES	498 173	512 041	526 820	533 990	550 639	534 626	539 850
ADAMS COUNTY	2 211	2 191	2 222	2 201	2 194	2 198	2 221
GETTYSBURG COLLEGE	1 967	1 947	1 947	1 926	1 930	1 951	1 978
LUTHERAN THEOLOGICAL SEMINARY - GETTYSBURG	244	244	275	275	264	247	243
ALLEGHENY COUNTY	73 636	75 942	78 584	80 401	84 257	81 964	79 229
ART INSTITUTE OF PITTSBURGH	1 878	1 924	1 911	2 015	1 973	1 961	1 848
CARLOW COLLEGE	955	977	1 013	963	1 085	1 246	1 174
CARNEGIE-MELLON UNIVERSITY	5 515	5 653	5 900	5 998	5 998	6 251	6 621
CHATHAM COLLEGE	685	712	673	658	538	536	565
CLARISSA SCHOOL	-	-	-	-	-	-	36
COMMUNITY COLLEGE OF ALLEGHENY	15 721	16 142	17 754	19 299	22 777	20 710	18 426
COMPUTER SYSTEMS INSTITUTE, INC - PITTSBURGH	183	224	334	413	331	270	189
DEAN INSTITUTE OF TECHNOLOGY	276	285	282	215	220	162	223
DUFFS BUSINESS INSTITUTE	339	397	494	453	590	586	457
DUQUESNE UNIVERSITY	6 752	6 771	6 628	6 298	6 362	6 598	6 528
ELECTRONIC INSTITUTES, INC - PITTSBURGH	286	414	390	376	431	356	246
ICM SCHOOL OF BUSINESS	450	438	474	544	475	426	280
IVY SCHOOL OF PROFESSIONAL ART	256	-	-	-	-	-	-
LAROCHE COLLEGE	1 283	1 346	1 549	1 613	1 723	1 780	1 751
MEDIAN SCHOOL OF ALLIED HEALTH CAREERS	-	-	115	81	89	90	69
MONROEVILLE SCHOOL OF BUSINESS	-	70	58	104	67	114	74
ORTHOTICS TECHNICIAN TRAINING INSTITUTE	-	-	-	-	-	-	68
PENN TECHNICAL INSTITUTE	495	506	553	547	539	496	461
PENNSYLVANIA STATE UNIVERSITY - MCKEESPORT CAMPUS	1 282	1 455	1 380	1 521	1 357	1 449	1 401
PITTSBURGH BEAUTY ACADEMY	-	7	21	30	42	33	27

Source: Pennsylvania Department of Education, Bureau of Higher Education Planning and Research, Report No.1, December 4, 1986.

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
PITTSBURGH INSTITUTE OF AERONAUTICS	378	524	569	533	495	440	568
PITTSBURGH INSTITUTE OF MORTUARY SCIENCE	-	-	-	-	-	-	5
PITTSBURGH TECHNICAL INSTITUTE	251	336	254	255	248	254	295
PITTSBURGH THEOLOGICAL SEMINARY	303	282	306	342	412	399	384
POINT PARK COLLEGE	2 048	2 210	2 595	2 666	2 639	2 594	2 762
REFORMED PRESBYTERIAN THEOLOGICAL SEMINARY	53	52	45	33	41	53	70
ROBERT MORRIS COLLEGE	4 555	5 010	5 425	5 689	5 721	5 714	5 545
TRIANGLE INSTITUTE OF TECHNOLOGY 1/	388	430	356	395	679	249	246
UNIVERSITY OF PITTSBURGH - MAIN CAMPUS	28 781	29 315	29 206	29 358	29 425	29 197	28 710
WHEELER SCHOOL	513	462	299	-	-	-	-
ARMSTRONG COUNTY	476	440	473	-	-	-	-
INDIANA UNIVERSITY - ARMSTRONG COUNTY CAMPUS	476	440	473	2/	2/	2/	2/
BEAVER COUNTY	4 319	4 638	4 837	5 194	5 447	4 847	4 772
COMMUNITY COLLEGE OF BEAVER COUNTY	1 802	2 092	2 175	2 438	2 803	2 377	2 373
GENEVA COLLEGE	1 271	1 294	1 403	1 267	1 292	1 225	1 191
PENNSYLVANIA STATE UNIVERSITY - BEAVER CAMPUS	1 246	1 252	1 180	1 391	1 257	1 142	1 083
TRINITY EPISCOPAL SCHOOL FOR MINISTRY	-	-	79	100	95	103	125
BERKS COUNTY	10 183	10 898	11 307	11 782	11 750	11 255	11 615
ALBRIGHT COLLEGE	1 748	1 977	2 107	2 110	2 108	2 049	2 053
ALVERNIA COLLEGE	774	761	856	771	694	729	779
KUTZTOWN UNIVERSITY	5 154	5 500	5 683	5 861	6 041	6 001	6 252
PENNSYLVANIA STATE UNIVERSITY - BERKS CAMPUS	1 165	1 219	1 308	1 491	1 282	1 092	1 252
READING AREA COMMUNITY COLLEGE	1 342	1 441	1 353	1 549	1 675	1 384	1 779
BLAIR COUNTY	2 185	2 415	2 654	2 491	2 478	2 208	2 232

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
ALTOONA SCHOOL OF COMMERCE	52	70	63	63	112	127	88
PENNSYLVANIA STATE UNIVERSITY - ALTOONA CAMPUS	2 133	2 345	2 591	2 428	2 366	2 081	2 144
BUCKS COUNTY	11 570	11 797	12 410	12 624	12 601	12 542	11 750
BUCKS COUNTY COMMUNITY COLLEGE	8 861	9 041	9 571	9 879	9 837	9 642	9 233
DELAWARE VALLEY COLLEGE OF SCIENCE AND AGRICULTURE	1 718	1 715	1 717	1 620	1 585	1 534	1 422
PENNCO TECH	465	539	550	559	631	700	454
PENNSYLVANIA COLLEGE OF STRAIGHT CHIROPRACTIC	-	-	-	-	-	125	97
PHILADELPHIA COLLEGE OF BIBLE	526	502	572	566	548	541	544
BUTLER COUNTY	7 504	7 553	7 551	7 694	8 152	8 588	8 646
BUTLER COUNTY COMMUNITY COLLEGE	1 810	1 863	1 836	1 912	1 993	2 109	2 150
SLIPPERY ROCK UNIVERSITY	5 694	5 690	5 715	5 782	6 159	6 479	6 496
CAMBRIA COUNTY	5 472	5 481	5 562	5 652	5 962	5 676	5 982
CAMBRIA-ROWE BUSINESS COLLEGE	195	195	183	233	271	236	258
CHRIST THE SAVIOUR SEMINARY	13	7	20	11	4	4	4
HIRAM G ANDREWS CENTER	43	43	41	75	80	45	49
MOUNT ALOYSIUS JUNIOR COLLEGE	495	520	518	541	634	551	852
SAINT FRANCIS COLLEGE	1 754	1 650	1 656	1 565	1 654	1 615	1 604
UNIVERSITY OF PITTSBURGH - JOHNSTOWN CAMPUS	2 972	3 066	3 144	3 227	3 319	3 223	3 214
CENTRE COUNTY	35 093	36 255	36 846	36 310	35 971	34 637	35 321
CENTRE BUSINESS SCHOOL, INC	-	34	68	73	71	130	123
PENNSYLVANIA STATE UNIVERSITY - MAIN CAMPUS	35 093	36 138	36 693	36 162	35 757	34 401	35 028
SOUTH HILLS BUSINESS SCHOOL	-	83	85	75	143	106	170

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
CHESTER COUNTY	11 785	12 007	12 561	13 056	13 164	13 132	13 656
IMMACULATA COLLEGE	1 271	1 377	1 567	1 672	1 872	1 836	1 912
LINCOLN UNIVERSITY	1 241	1 294	1 347	1 230	1 185	1 167	1 181
VALLEY FORGE CHRISTIAN COLLEGE	654	535	438	450	521	601	610
WEST CHESTER UNIVERSITY	8 599	8 801	9 209	9 704	9 586	9 528	9 953
CLARION COUNTY	4 774	4 729	4 864	4 951	5 091	5 297	5 489
CLARION UNIVERSITY - MAIN CAMPUS	4 774	4 729	4 864	4 951	5 091	5 297	5 489
CLEARFIELD COUNTY	882	934	968	953	1 055	1 234	1 335
DUBOIS BUSINESS COLLEGE	115	110	118	126	203	233	284
PENNSYLVANIA STATE UNIVERSITY - DUBOIS CAMPUS	767	824	850	827	852	868	859
TRIANGLE INSTITUTE OF TECHNOLOGY - DUBOIS	-	-	-	-	-	133	192
CLINTON COUNTY	2 416	2 550	2 531	2 619	2 661	2 624	2 682
LOCK HAVEN UNIVERSITY	2 416	2 550	2 531	2 619	2 661	2 624	2 682
COLUMBIA COUNTY	6 532	6 503	6 339	6 240	6 316	6 189	6 439
BLOOMSBURG UNIVERSITY	6 532	6 503	6 339	6 240	6 316	6 189	6 439
CRAWFORD COUNTY	2 664	2 703	2 705	2 669	2 592	2 657	2 542
ALLEGHENY COLLEGE	1 936	1 936	1 927	1 946	1 955	1 955	1 905
ALLIANCE COLLEGE	247	261	260	288	270	282	277
COMPUTER SYSTEMS INSTITUTE - MEADVILLE	-	-	-	-	-	97	71
UNIVERSITY OF PITTSBURGH - TITUSVILLE CAMPUS	481	506	518	435	367	323	289
CUMBERLAND COUNTY	10 083	10 326	10 438	10 439	10 772	11 012	11 262
CENTRAL PENNSYLVANIA BUSINESS SCHOOL	663	751	776	729	752	722	699

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
DICKINSON COLLEGE	1 758	1 783	1 789	1 813	1 841	1 888	1 937
DICKINSON SCHOOL OF LAW	484	505	516	513	521	520	541
MESSIAH COLLEGE	1 247	1 301	1 465	1 502	1 611	1 761	1 846
SHIPPENSBURG UNIVERSITY	5 931	5 986	5 892	5 882	6 047	6 121	6 219
DAUPHIN COUNTY	8 647	9 145	9 921	10 483	10 594	10 996	10 783
ELECTRONIC INSTITUTES, INC - MIDDLETOWN	160	221	269	313	350	306	267
HARRISBURG AREA COMMUNITY COLLEGE	5 058	5 521	6 036	6 459	6 696	6 866	6 598
PALMER SCHOOL - HARRISBURG	-	-	-	-	-	-	114
PENNSYLVANIA JUNIOR COLLEGE OF MEDICAL ARTS	20	-	-	-	-	-	-
NATIONAL EDUCATION CENTER - THOMPSON INSTITUTE CAMPUS - HARRISBURG	337	425	445	483	442	472	440
PENNSYLVANIA STATE UNIVERSITY - CAPITOL CAMPUS	2 507	2 411	2 628	2 711	2 604	2 595	2 644
PENNSYLVANIA STATE UNIVERSITY - HERSHEY MEDICAL CENTER	565	567	543	517	502	757	720
DELAWARE COUNTY	28 711	30 239	31 191	33 432	34 956	34 795	34 850
AMERICAN COLLEGE	675	840	816	675	1 104	1 875	2 226
CABRINI COLLEGE	590	635	730	784	817	935	1 000
CHEYNEY UNIVERSITY	2 508	2 426	2 260	1 867	1 934	1 795	1 463
DELAWARE COUNTY COMMUNITY COLLEGE	5 888	6 020	6 028	7 208	7 547	7 254	7 638
EASTERN COLLEGE	710	650	732	845	907	937	959
KEYSTONE SECRETARIAL AND BUSINESS ADMINISTRATION SCHOOL	129	114	159	147	126	98	125
LYONS TECHNICAL INSTITUTE - UPPER DARBY	43	75	85	102	105	105	93
NEUMANN COLLEGE	701	766	786	847	1 006	982	1 016
PENNSYLVANIA INSTITUTE OF TECHNOLOGY	287	316	429	414	472	399	403
PENNSYLVANIA STATE UNIVERSITY - DELAWARE CAMPUS	1 380	1 369	1 397	1 673	1 655	1 504	1 491
SWARTHMORE COLLEGE	1 314	1 316	1 315	1 278	1 270	1 326	1 322

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
VALLEY FORGE MILITARY JUNIOR COLLEGE	131	113	110	124	142	151	166
VILLANOVA UNIVERSITY	9 978	10 375	10 753	11 720	11 728	11 665	11 956
WIDENER UNIVERSITY	4 343	5 133	5 508	5 669	6 071	5 665	4 900
WILLIAMSON FREE SCHOOL OF MECHANICAL TRADES	34	91	83	79	72	104	92
ERIE COUNTY	13 552	13 831	14 347	14 441	14 968	15 068	14 903
EDINBORO UNIVERSITY	5 596	5 646	5 848	5 636	5 913	6 053	5 849
ERIE BUSINESS CENTER	295	390	281	390	481	321	308
GANNON UNIVERSITY	3 691	3 822	4 203	4 135	4 103	4 184	4 096
MERCYHURST COLLEGE	1 371	1 296	1 373	1 606	1 631	1 643	1 653
PENNSYLVANIA STATE UNIVERSITY - BEHREND COLLEGE	1 830	1 810	1 811	1 850	1 979	1 989	2 251
TRIANGLE INSTITUTE OF TECHNOLOGY - ERIE	153	142	140	202	242	210	150
VILLA MARIA COLLEGE	616	725	691	622	619	668	596
FAYETTE COUNTY	909	912	882	871	783	856	767
PENNSYLVANIA STATE UNIVERSITY - FAYETTE CAMPUS	909	912	882	871	783	835	742
TRIANGLE INSTITUTE OF TECHNOLOGY - UNIONTOWN	-	-	-	-	-	21	25
FRANKLIN COUNTY	969	1 157	1 169	1 220	1 186	1 107	1 101
PENNSYLVANIA STATE UNIVERSITY - MONT ALTO CAMPUS	826	961	934	966	885	797	773
WILSON COLLEGE	143	196	235	254	301	310	328
GREENE COUNTY	838	871	831	685	795	821	869
WAYNESBURG COLLEGE	838	871	831	685	795	821	869
HUNTINGDON COUNTY	1 274	1 283	1 274	1 286	1 242	1 185	1 127
JUNIATA COLLEGE	1 274	1 283	1 274	1 286	1 242	1 185	1 127

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
INDIANA COUNTY	11 732	11 889	12 393	13 205	13 224	13 156	13 279
INDIANA UNIVERSITY - MAIN CAMPUS	11 420	11 710	11 626	12 503	12 526	12 806	12 938
NATIONAL EDUCATION CENTER - VALE TECHNICAL INSTITUTE CAMPUS	312	179	767	702	698	350	341
JEFFERSON COUNTY	249	267	292	-	-	-	-
INDIANA UNIVERSITY - PUNXSUTAWNEY CAMPUS	249	267	292	2/	2/	2/	2/
LACKAWANNA COUNTY	15 946	13 558	17 063	17 261	22 018	13 248	18 382
BAPTIST BIBLE COLLEGE AND SCHOOL OF THEOLOGY	859	914	863	792	766	756	694
CENTER FOR DEGREE STUDIES	3 877	1 302	4 674	4 753	9 050	778	5 821
JOHNSON TECHNICAL INSTITUTE	492	538	543	525	541	537	510
KEYSTONE JUNIOR COLLEGE	944	943	970	1 030	1 068	1 092	1 190
LACKAWANNA JUNIOR COLLEGE	1 115	1 048	1 057	1 038	1 171	1 061	1 191
MARYWOOD COLLEGE	3 141	3 161	3 191	2 966	3 116	3 207	3 194
PENNSYLVANIA STATE UNIVERSITY - WORTHINGTON-SCRANTON CAMPUS	1 082	1 135	1 223	1 537	1 485	1 202	1 086
UNIVERSITY OF SCRANTON	4 434	4 497	4 542	4 620	4 801	4 685	4 688
LANCASTER COUNTY	11 763	11 997	12 002	11 992	12 331	12 218	11 900
ELIZABETHTOWN COLLEGE	1 887	1 738	1 903	1 841	1 864	1 788	1 608
FRANKLIN AND MARSHALL COLLEGE	2 958	2 994	3 033	2 917	2 876	2 793	2 794
LANCASTER BIBLE COLLEGE	392	370	407	349	362	359	355
LANCASTER THEOLOGICAL SEMINARY	240	239	227	242	236	244	254
MILLERSVILLE UNIVERSITY	6 195	6 457	6 239	6 420	6 768	6 770	6 628
THADDEUS STEVENS STATE SCHOOL OF TECHNOLOGY	91	199	193	223	225	264	261
LAWRENCE COUNTY	1 963	1 916	1 817	1 698	1 699	1 554	1 633

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
LYON SCHOOL OF BUSINESS	106	132	97	107	83	14	-
NEW CASTLE SCHOOL OF TRADES	-	-	-	-	74	196	258
SHENANGO VALLEY SCHOOL OF BUSINESS - NEW CASTLE	-	-	-	-	-	-	78
WESTMINSTER COLLEGE	1 857	1 784	1 720	1 591	1 542	1 344	1 297
LEBANON COUNTY	1 369	1 378	1 337	1 296	1 362	1 340	1 281
EVANGELICAL SCHOOL OF THEOLOGY	75	80	63	57	60	53	71
LEBANON VALLEY COLLEGE	1 294	1 298	1 274	1 239	1 302	1 287	1 210
LEHIGH COUNTY	8 146	9 141	9 922	10 492	10 787	10 131	10 319
ALLENTOWN COLLEGE OF ST. FRANCIS DESALES	659	737	1 032	1 101	1 165	1 298	1 407
CEDAR CREST COLLEGE	1 013	1 132	1 158	1 030	1 101	1 051	1 157
LEHIGH COUNTY COMMUNITY COLLEGE	2 940	3 312	3 491	3 530	3 515	3 306	3 287
LINCOLN TECHNICAL INSTITUTE - ALLENTOWN	526	737	831	872	938	932	1 000
MUHLENBERG COLLEGE	2 094	2 222	2 308	2 353	2 309	2 185	2 133
NATIONAL EDUCATION CENTER - ALLENTOWN BUSINESS SCHOOL CAMPUS	185	237	320	453	515	538	492
PENNSYLVANIA STATE UNIVERSITY - ALLENTOWN CAMPUS	414	412	451	866	951	482	492
PINEBROOK JUNIOR COLLEGE	122	139	133	102	97	114	164
UNITED WESLEYAN COLLEGE	193	213	198	185	196	223	187
WELDER TRAINING AND TESTING INSTITUTE - ALLENTOWN	-	-	-	-	-	-	-
LUZERNE COUNTY	11 267	11 794	12 416	12 562	12 821	12 643	13 032
COLLEGE MISERICORDIA	1 030	1 114	1 225	1 253	1 303	1 292	1 268
KINGS COLLEGE	2 123	2 173	2 343	2 306	2 309	2 271	2 327
LUZERNE COUNTY COMMUNITY COLLEGE	3 394	3 423	3 541	3 940	4 173	4 259	4 525
NORTHEAST INSTITUTE OF EDUCATION	-	-	-	-	-	229	105

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
PENNSYLVANIA STATE UNIVERSITY - HAZLETON CAMPUS	1 105	1 287	1 315	1 342	1 412	1 105	1 093
PENNSYLVANIA STATE UNIVERSITY - WILKES-BARRE CAMPUS	631	708	829	754	797	686	750
WELDER TRAINING AND TESTING INSTITUTE - WILKES-BARRE	-	-	-	-	-	-	-
WILKES COLLEGE	2 984	3 089	3 163	2 967	2 827	2 731	2 964
LYCOMING COUNTY	4 395	4 642	4 836	5 010	5 296	5 486	4 940
LYCOMING COLLEGE	1 159	1 130	1 204	1 192	1 181	1 258	1 208
WILLIAMSPORT AREA COMMUNITY COLLEGE	3 154	3 391	3 512	3 701	3 958	4 084	3 589
WILLIAMSPORT SCHOOL OF COMMERCE	82	121	120	117	157	144	143
MCKEAN COUNTY	825	891	986	1 023	1 062	974	845
UNIVERSITY OF PITTSBURGH - BRADFORD CAMPUS	825	891	986	1 023	1 062	974	845
MERCER COUNTY	4 124	4 103	4 131	4 070	4 001	4 281	4 345
GROVE CITY COLLEGE	2 211	2 247	2 251	2 200	2 177	2 184	2 162
PENNSYLVANIA STATE UNIVERSITY - SHENANGO VALLEY CAMPUS	871	920	935	922	912	1 067	1 076
SHENANGO VALLEY SCHOOL OF BUSINESS - SHARON	-	-	-	141	109	155	253
THIEL COLLEGE	1 042	936	945	807	803	875	854
MONROE COUNTY	3 890	3 934	3 886	4 066	4 068	4 235	4 223
EAST STROUDSBURG UNIVERSITY	3 890	3 934	3 886	4 066	4 068	4 235	4 223
MONTGOMERY COUNTY	22 214	23 674	23 999	25 290	25 719	25 271	25 008
ACADEMY OF NEW CHURCH	157	170	177	159	164	156	155
ANTONELLI INSTITUTE OF ART AND PHOTOGRAPHY - PLYMOUTH MEETING	293	294	299	236	350	346	355
BEAVER COLLEGE	1 925	2 040	2 177	2 040	2 210	2 146	2 004

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
BIBLICAL THEOLOGICAL SEMINARY	133	137	131	145	160	141	167
BRYN MAWR COLLEGE	1 712	1 784	1 850	1 810	1 832	1 782	1 794
CALVARY BAPTIST THEOLOGICAL SEMINARY	-	66	80	95	111	120	102
COMBS COLLEGE OF MUSIC	111	87	82	85	99	76	72
DROPSIE COLLEGE	63	46	45	42	41	50	38
EASTERN BAPTIST THEOLOGICAL SEMINARY	264	266	299	334	373	391	371
FAITH THEOLOGICAL SEMINARY	43	36	40	31	26	47	45
GWYNEDD-MERCY COLLEGE	1 547	1 841	2 106	2 160	2 201	2 107	2 007
HARCUM JUNIOR COLLEGE	949	1 006	1 087	1 081	1 018	983	1 003
HAVERFORD COLLEGE	993	1 068	1 072	1 026	1 073	1 085	1 101
LANSDALE SCHOOL OF BUSINESS - LANSDALE	-	-	-	109	106	125	103
LANSDALE SCHOOL OF BUSINESS - POTTSTOWN	-	-	-	-	-	65	65
MANOR JUNIOR COLLEGE	357	304	341	391	422	450	515
MONTGOMERY COUNTY COMMUNITY COLLEGE	7 062	7 410	6 903	7 993	7 864	7 239	7 047
NORTHEASTERN CHRISTIAN JUNIOR COLLEGE	195	166	188	207	268	207	189
PENNSYLVANIA STATE UNIVERSITY - KING OF PRUSSIA CENTER FOR GRADUATE STUDIES	397	469	436	438	474	533	659
PENNSYLVANIA STATE UNIVERSITY - OGONTZ CAMPUS	2 683	3 047	3 027	3 192	3 301	3 492	3 499
RECONSTRUCTIONIST RABBINICAL COLLEGE	35	40	38	39	49	62	65
ROSEMONT COLLEGE	585	608	651	607	579	559	519
SAINT CHARLES BORROMEO SEMINARY	573	491	513	554	536	495	504
URSINUS COLLEGE	1 771	1 912	2 031	2 085	2 024	2 136	2 127
WELDER TRAINING AND TESTING INSTITUTE - BRIDGEPORT	-	-	9	9	8	2	-
WESTMINSTER THEOLOGICAL SEMINARY	366	386	417	422	430	476	502
NORTHAMPTON COUNTY	15 076	15 267	15 281	15 344	15 356	14 792	14 798
CHURCHMAN BUSINESS SCHOOL	176	163	161	164	167	158	172
LAFAYETTE COLLEGE	2 348	2 390	2 413	2 398	2 383	2 331	2 375

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
LEHIGH UNIVERSITY	6 291	6 546	6 358	6 287	6 355	6 280	6 396
MARY IMMACULATE SEMINARY	44	42	42	40	39	38	44
MORAVIAN COLLEGE 3/	1 832	1 889	1 914	1 847	1 837	1 807	1 758
NORTHAMPTON COUNTY AREA COMMUNITY COLLEGE	4 363	4 217	4 373	4 608	4 580	4 168	4 041
PHILADELPHIA COUNTY	112 793	115 556	115 234	113 885	115 185	113 325	115 303
AMERICAN INSTITUTE OF DESIGN, INC	-	81	266	299	325	-	-
ANTIOCH UNIVERSITY	702	750	717	678	662	652	717
ART INSTITUTE OF PHILADELPHIA	281	352	673	927	1 123	1 339	1 422
BEREAN INSTITUTE	214	151	182	175	132	172	154
CHESTNUT HILL COLLEGE	911	1 024	1 061	1 088	1 111	1 124	925
COMMUNITY COLLEGE OF PHILADELPHIA	12 838	13 199	13 296	13 517	15 052	14 965	15 267
CURTIS INSTITUTE OF MUSIC	129	160	158	142	148	166	158
DREXEL UNIVERSITY	11 153	11 953	12 594	12 339	12 682	12 566	12 386
GRATZ COLLEGE	138	153	242	258	295	309	246
HAHNEMANN UNIVERSITY	1 784	1 845	1 848	1 987	2 239	2 069	2 209
HOLY FAMILY COLLEGE	1 185	1 281	1 326	1 296	1 419	1 528	1 525
HUSSIAN SCHOOL OF ART, INC	223	211	199	170	182	155	138
LASALLE UNIVERSITY	6 777	7 663	7 587	7 068	6 725	6 333	6 340
LEVITAN SCHOOL, INC	61	61	-	-	-	-	-
LINCOLN TECHNICAL INSTITUTE - PHILADELPHIA	-	-	-	-	149	148	127
LUTHERAN THEOLOGICAL SEMINARY - PHILADELPHIA	223	217	221	234	263	259	259
LYONS TECHNICAL INSTITUTE - PHILADELPHIA	102	72	77	92	148	98	62
MCCARRIE SCHOOLS, INC 4/	91	118	194	221	293	251	147
MEDICAL COLLEGE OF PENNSYLVANIA	554	524	526	539	537	544	568
MOORE COLLEGE OF ART	678	620	603	524	532	541	598
NATIONAL EDUCATION CENTER - THOMPSON INSTITUTE CAMPUS - PHILADELPHIA	-	-	-	-	-	195	445

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
NATIONAL SCHOOL OF HEALTH TECHNOLOGY, INC	-	-	-	60	65	34	33
NEW SCHOOL OF MUSIC	83	81	81	70	67	54	46
PALMER SCHOOL, INC	-	-	-	-	31	89	72
PEIRCE JUNIOR COLLEGE	1 962	2 106	2 009	2 120	1 826	1 642	1 492
PENNSYLVANIA COLLEGE OF OPTOMETRY	589	589	583	579	592	590	614
PENNSYLVANIA COLLEGE OF PODIATRIC MEDICINE	458	471	481	475	458	458	477
PHILADELPHIA COLL OF ART	2 015	2 150	1 970	1 617	1 591	1 527	1 345
PHILADELPHIA COLLEGE OF OSTEOPATHIC MEDICINE	822	820	823	833	833	833	824
PHILADELPHIA COLLEGE OF PHARMACY AND SCIENCE	1 155	1 144	1 108	1 107	1 119	1 111	1 243
PHILADELPHIA COLLEGE OF TEXTILES AND SCIENCE	2 827	2 805	3 025	3 091	2 943	2 746	2 974
PHILADELPHIA COLLEGE OF THE PERFORMING ARTS	370	364	357	346	397	414	440
PHILADELPHIA SCHOOL OF OFFICE TECHNOLOGIES 5/	366	367	433	489	496	364	349
PHILADELPHIA SCHOOL OF PRINTING AND ADVERTISING	-	13	50	69	64	35	15
PTC CAREER INSTITUTE	-	-	-	-	-	-	-
SAINT JOSEPH'S UNIVERSITY	5 471	5 352	5 578	6 086	6 061	5 760	5 705
SPRING GARDEN COLLEGE	1 103	1 157	1 343	1 398	1 368	1 255	1 677
TEMPLE UNIVERSITY	33 593	33 158	31 474	29 643	28 900	28 772	30 277
THEOLOGICAL SEMINARY OF THE REFORMED EPISCOPAL CHURCH	65	67	67	70	60	53	48
THOMAS JEFFERSON UNIVERSITY	1 745	1 753	1 750	1 870	1 931	2 015	2 016
TRACEY WARNER SCHOOL	119	113	86	91	89	94	93
UNIVERSITY OF PENNSYLVANIA	22 006	22 611	22 246	22 317	22 277	22 065	21 870
WELDER TRAINING AND TESTING INSTITUTE - PHILADELPHIA	-	-	-	-	-	-	-
SCHUYLKILL COUNTY	849	955	1 048	1 100	1 148	1 234	1 271
MCCANN SCHOOL OF BUSINESS, INC	89	100	88	138	176	170	199
PENNSYLVANIA STATE UNIVERSITY - SCHUYLKILL CAMPUS	760	855	960	962	855	951	948
SCHUYLKILL BUSINESS INSTITUTE	-	-	-	-	117	113	124

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
SNYDER COUNTY	1 742	1 830	1 829	1 714	1 834	1 789	1 720
SUSQUEHANNA UNIVERSITY	1 742	1 830	1 829	1 714	1 834	1 789	1 720
WELDER TRAINING AND TESTING INSTITUTE - SELINSGROVE	-	-	-	-	-	-	-
TIOGA COUNTY	2 581	2 476	2 675	2 713	2 900	2 939	2 868
MANSFIELD UNIVERSITY	2 581	2 476	2 675	2 713	2 900	2 939	2 868
UNION COUNTY	3 255	3 303	3 314	3 256	3 264	3 339	3 296
BUCKNELL UNIVERSITY	3 255	3 303	3 314	3 256	3 264	3 339	3 296
VENANGO COUNTY	476	518	602	510	555	591	582
CLARION UNIVERSITY - VENANGO CAMPUS	476	518	602	510	555	591	582
WASHINGTON COUNTY	5 703	5 749	6 106	5 869	6 344	6 438	6 481
CALIFORNIA UNIVERSITY	4 387	4 386	4 657	4 528	4 959	5 085	5 087
PENN COMMERCIAL, INC	112	97	109	74	114	126	127
WASHINGTON AND JEFFERSON COLLEGE	1 204	1 266	1 340	1 267	1 271	1 227	1 267
WESTMORELAND COUNTY	6 386	7 198	7 616	8 094	8 731	8 713	8 604
DOUGLAS SCHOOL OF BUSINESS	-	-	-	-	-	-	61
FPM DATA SCHOOL, INC	-	-	-	-	51	58	61
NEW KENSINGTON COMMERCIAL SCHOOL	61	68	107	171	165	151	205
PENNSYLVANIA STATE UNIVERSITY - NEW KENSINGTON CAMPUS	1 041	1 231	1 229	1 329	1 275	1 270	1 267
SAINT VINCENT COLLEGE 3/	946	930	1 032	1 110	1 156	1 224	1 237
SETON HILL COLLEGE	922	953	973	968	920	870	892

INSTITUTION	1979	1980	1981	1982	1983	1984	1985
TRIANGLE INSTITUE OF TECHNOLOGY - GREENSBURG	-	-	-	-	-	171	174
UNIVERSITY OF PITTSBURGH - GREENSBURG CAMPUS	951	1 189	1 260	1 274	1 440	1 471	1 395
WESTMORELAND COUNTY COMMUNITY COLLEGE	2 465	2 827	3 015	3 242	3 724	3 496	3 312
YORK COUNTY	4 744	5 205	5 568	5 844	5 947	6 041	6 167
ANTONELLI INSTITUTE OF ART AND PHOTOGRAPHY -- YORK	-	-	-	-	-	196	199
PENNSYLVANIA STATE UNIVERSITY - YORK CAMPUS	1 116	1 244	1 198	1 341	1 248	1 111	1 156
YORK COLLEGE OF PENNSYLVANIA	3 628	3 883	4 274	4 364	4 533	4 570	4 638
YORKTOWNE BUSINESS INSTITUTE	-	78	96	139	166	164	174

1/ INCLUDES GREENSBURG CENTER ENROLLMENTS THROUGH 1983.
2/ INCLUDED WITH MAIN CAMPUS ENROLLMENTS.
3/ INCLUDES SEMINARY.
4/ INCLUDES SUBURBAN CAMPUS ENROLLMENTS.
5. INCLUDES NORTHEAST CAMPUS ENROLLMENTS.